Containing a Summertime Supplement

VOL. IX. NO. 6 $1.00 A YEAR

JULY, 1911

SELLING ELECTRICITY

A Magazine of Commercial Methods for Electrical Men

Published by THE RAE COMPANY, 17 Madison Ave., New York

There are few shops and factories where the central station cannot demonstrate the need for better lighting arrangements, *provided that the influence of illumination on output efficiency is appreciated.* There's the rub!—To interest the prospect in the economy of proper industrial lighting!

ELECTRICAL PROGRESS next month will be an INDUSTRIAL LIGHTING ISSUE designed to do just this thing. The photographs showing actual comparisons of the effect of good and bad lighting at actual working machines cannot be questioned. The facts and figures cited are convincing—and will create an eager interest.

The INDUSTRIAL LIGHTING ISSUE of ELECTRICAL PROGRESS should go to every shop and factory in your territory. Start your campaign early this year—Let this be the opening gun.

Published by THE RAE COMPANY,
17 Madison Avenue, New York City, N. Y.

Extending the Field of Electric Service

FOR nearly two years this company's extensive advertising in the magazines of national prominence and circulation has been co-operating with central stations by creating a widespread demand for more electric light.

LIGHTING, however, is but one branch of central station service; electric power for industrial, commercial and domestic use is another factor that must be popularized if there is to be a uniform and economic development of electric service. The **immediate** advantage of developing this factor will be a substantial increase in the dayload.

INDUSTRIAL applications of electric power are continually advertised by this company to selected classes of power users in all industries.

COMMERCIAL and domestic fans, sewing machine motors, stoves, flatirons and other heating devices—real dayload-builders—will be advertised by this company to ten million people who can afford to buy and use them.

THE central stations that profit by this widespread publicity will be those that co-operate with it in a timely and effective manner. Upon request the General Electric Company will furnish the method and material for this kind of co-operation.

General Electric Company

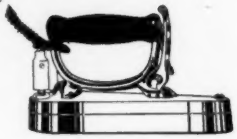
Schenectady, N. Y.

2915

Cutler-Hammer Tailor's Goose Iron in a Chicago Clothing Factory

Household Iron—5, 6, 7 lbs.
No separate stand required.

Better Than a Power Load



3-lb. Sleeve Iron.
Detachable Handle.
Convenient for travelers.

Put a little effort into securing an electric iron load. It means a steady load (with no disturbances to line regulation as with motors on starting) and good power factor.

CUTLER-HAMMER IRONS

include types and sizes to suit all conditions and classes of work. The Tailor's Goose Iron (illustrated above) is made in 12, 15 and 20 pound sizes. The small tailor and large clothing manufacturer should be on your lines.

Cutler-Hammer Household Irons are made in 5, 6 and 7 pound sizes. They require no separate stand and have unusual heat retaining qualities.

The 3-pound sleeve iron has a long narrow body. For fancy dresses, baby clothes, etc., it is especially well suited. Because of its light weight and detachable handle it can be carried along when traveling.

These irons and all of our entire line of heating devices are described and illustrated in a 32-page booklet. A copy will be sent you on request.

New York: Church St.
Pittsburg: Farmers' Bank Bldg.
Philadelphia: 1201 Chestnut St.

THE CUTLER-HAMMER MFG. CO., MILWAUKEE

Chicago: Peoples Gas Bldg.
Boston: 176 Federal St.
Cleveland: Schofield Bld

Pacific Coast Agents: Otis & Squires, 579 Howard St., San Francisco, W. B. Palmer, 416 East 3rd St., Los Angeles

SELLING ELECTRICITY

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SELLING ELECTRICITY

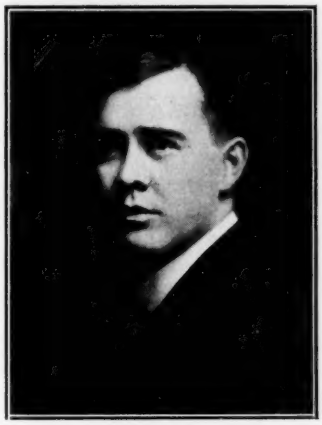
Edited by FRANK B. RAE, Jr. EARL E. WHITEHORNE, Managing Editor

Applying the Showman's Point of View

How a Theatrical Man Lighted Up Fort Smith, Ark.

By William H. Hodge, Publicity Manager H. M. Byllesby & Co., Chicago

Fort Smith, Arkansas, is one of the oldest cities of the southwest. The 1910 census gave it a population of 23,795, an increase of 107 per cent in the last ten years. For the decade preceding, the city practically stood still. Several years ago there was a commercial and social re-awakening



Wm. H. Hodge

which produced the results indicated in the 107 per cent gain.

For several years the electric, street railway and gas utilities of the city have been united in a single corporation—the Fort Smith Light & Traction Company—which is one of the properties under the management of H. M. Byllesby & Company of Chicago. Each of the three utilities has been reconstructed and placed on a modern and efficient footing. They are now probably as efficient and up-to-date as can be found in any city of 25,000 population or less.

While the success of progressive management had been demonstrated from an earnings standpoint, up to about a year ago there was one phase of the central station business in Fort Smith which appeared unresponsive to treatment. This particular hard nut consisted of the down town illumination of all kinds. Various efforts were made to induce the merchants to employ modern lighting in their stores and windows and for advertising purposes by excellent representatives of the new business guild. Their exertions, however, although varied and resourceful, did not seem to meet with the success which energetic measures deserve, nor compensatory with the

An Example of Side-Street Lighting that Draws the Crowds

possibilities which undoubtedly existed.

The principal business street of Fort Smith is Garrison Avenue, a broad highway which runs from the railroad passenger stations, branching off into various subsidiary arteries of traffic. In the fall of 1909 Garrison Avenue was not altogether a joyful spectacle to the central station commercial enthusiast. It is true there were quite a number of signs and a few of the merchants made a practice of keeping the incandescents in their windows turned on evenings, but on the whole, the street was dark compared with other cities of similar size having similar up-to-date central station management. This was the condition of the down town lighting when a young man named Robert J. Mack walked down Garrison Avenue for the first time. For thirteen years Mr. Mack had been in the theatrical business, nearly all of this time acting as the manager of a dramatic repertoire company and for several years heading his own organization on the road.

The Fort Smith Light & Traction Company owns and operates a very pretty summer amusement resort called Electric Park. In this resort is a well equipped summer theatre, seating 1,800 persons. Mack's theatrical company played a short engagement at Electric Park in October of 1909. At the closing performance the financial value of the "house" was just seven dollars. For some time Mr. Mack had contemplated egress from the theatrical business provided a suitable opportunity presented for he felt that popular price dramatic entertainment was losing its hold with the public very rapidly by reason of the advance in the picture show—vaudeville type of entertainment. His experience at Fort Smith was the finish.

He saw a beautiful park with magnificent oaks, well-constructed buildings and a splendid variety of amusements, all conducted on a high grade scale, apparently not very well patronized, even though admission to the park was free and the street car fare but five cents. He felt that proper management of the park should be better rewarded and on this point he talked with Mr. J. Walter Gillette, General Manager of the Fort Smith Light & Traction Company. On his part, Mr. Gillette realized that Electric Park, while much admired by the people of Fort Smith, had somehow failed to draw the patronage which might reasonably be expected and he reasoned that the cause was due to the lack of expert management. In Mack he recognized a showman—that is to say, a man who had been trained in the art of catering to the amusement tastes of the public.

Eventually, it was decided to give Mack a job, the principal function of which was to be the management of Electric Park. As the season of 1909 was nearing its close little could be done directly and a natural problem arose of how to keep Mack employed until the following spring. Events so adjusted themselves that Mack was placed in the New Business Department of the Company, and, with his consent, applied to the task of adding electric and gas customers to the books of the organization. Not only was he placed in the New Business Department, but he was made Manager of the New Business Department, so favorably did he impress Mr. Gillette and Mr. E. L. Callahan, New Business Manager of H. M. Byllesby & Company, with his general ability. After a short conference with Mr. Callahan, Mack assumed the title of New Business Manager and went to work; this being about November first.

"When I started to work in the New Business Department, I didn't know the difference between a kilowatt and a storage battery," says Mack. "I could not understand why it was necessary for an electric company or a gas company to employ men to sell their products when they were the only people who produced electricity or gas in the city. It took me quite a while before I found out. The first thirty days I devoted my time almost entirely to getting acquainted with the

business men. In December we took orders for sixteen electric signs. I had the advantage at all times of the active co-operation of Mr. Gillette and of all the other departments of our company. Of particular benefit was the never failing backing received from the electrical department and its superintendent, Mr. A. Patterson. Mr. Patterson and his department is my source of technical knowledge. I also derived much knowledge from the electrical solicitors' hand book and the class journals in the electric and gas fields."

May 1st, 1911, Mack had been in charge of the New Business Department at Fort Smith eighteen months. During this period, the number of electric signs had been increased from 69 to 160, or 132 per cent. The lamps in signs had been increased 142 per cent, but it was entirely unnecessary for a visitor to have these figures in order to realize that the business streets were brilliantly lighted. Garrison Avenue is now a blaze of light and various short, side business streets leading away from it also contain numbers of electrical displays, including signs, luxolabras and flaming arc lamps. Nearly every merchant in town is now a firm believer in good show window lighting and he puts this belief into practice. Store front after store front has been remodeled and made modern, and today no city of its size has more attractive or better dressed windows than Fort Smith.

There has been no attempt made to install a municipal ornamental curb lighting system, although there are upwards of a score of five-light luxolabras maintained by individual merchants. This, and other reasons, probably have caused a lack of uniformity in the illumination media. Whether or not this non-uniformity is detrimental is a question. The result at Fort Smith has been to give the down-

Garrison Avenue, the Leading Thoroughfare of Fort Smith

town lighting a wonderful degree of variety. There is within a few blocks a type of almost every kind of out-door illumination. About a dozen of the electric signs are mechanical. Some of the effects, notably that in a reproduction of the sign on the Pabst Brewery at Milwaukee, are exceptionally pleasing. Lightning effects, fountain effects and various others have been worked out and a number of the merchants have preferred colored incandescents. The ensemble has an animation which certainly contributes to the metropolitan appearance of the business section. Several large billboards are brilliantly lighted by flam-

ing arcs and for the most part Garrison Avenue is about as bright as any street to be found outside of the great population centers.

From the above, it may be seen that Mack accomplished what men who had received considerable training in commercial work for central stations failed to achieve. Not only this, but he did excellent work in many other

An Aerial Sign that Dominates a Side Street

respects and particulars. Under his superintendency, Electric Park last year enjoyed the most successful season in its history. The attendance increased upwards of 25 per cent and there is every indication that this, its sixth season, will enjoy an even greater percentage of increased patronage.

As this is an effort to describe central station work, details of the Park management will not be gone into. At the same time, it may be stated that Mack simply applied trained knowledge of the amusement business and it won out. That he handled the Park, the Baseball Park, which the company also controls, and at the same time kept up the business getting efforts for the electric and gas departments, most of the time with only one assistant—Mr. A. W. Crary, who is a loyal and efficient lieutenant—speaks very well for his unremitting energy.

To indicate what has been done in the electrical department aside from down town lighting, a few figures are expressive. For instance, the 16-candle power equivalent connected increased 28 per cent, and the number of customers increased 13 per cent. The power load gained 49 per cent, proving that Mack's lack of technical knowledge did not prevent him from landing motor business with Superintendent Patterson standing in the background supplying the technical knowledge, and with help from Chicago office experts on the larger propositions.

During the period, 156 old houses were wired and connected for service. The number of flatirons in use was increased 130 per cent. In fact, straight down the line the records show a highly satisfactory gain in connected toad and in turn the earnings reflect l he additional business.

All of the foregoing is interesting, not because it was done, for as good or better results have been obtained elsewhere, but because it was done largely by a man who had no previous central station experience and after men with central station training had succeeded indifferently well. The year of 1910 in Fort Smith was rather quiet in a commercial sense. Money was tight and there was not a great deal of construction activity. One of the first things Mack had to do was to double the rate received for sign lighting. In general conditions were not propitious for adding business, and yet it was done.

The Fort Smith Light and Traction Offices, Showing that the Company Believes in "Taking its own Medicine"

Therefore an attempt to analyze the secret of Mack's success may be worth while. Disregarding the qualifications of native salesmanship, energy, honesty, ability to work hard and capacity to learn—all of which may be taken for granted—the first reason for Mack's success, in my opin-

ion, lies in the fact that for thirteen years he was engaged in the work of trying to please the public. To my mind, that is the answer.

Mack first got acquainted with his customers, then gained their confidence, then studied their electrical needs and found out what they wanted, and lastly, endeavored to give them what they wanted as nearly as possible.

For instance, Fort Smith is a wet town. There are a number of saloons. Some of the saloon keepers got the idea that they wanted to put flaming arcs on their sidewalks in front of their places of business. Now nearly every saloon in the city has at least one flaming arc hanging in front.

Mack discovered that merchants in Fort Smith like to have a sign that is individual, that is, different from the other signs, and that many desired to have a flasher effect of some kind. He catered to these wants and he got the business. The window lighting was obtained without offering flat rate window lighting rates. Most of the signs are on meters and are operated by time switches.

Second on the list of reasons I would place the confidence bestowed by Manager Gillette and the co-operation of Superintendent Patterson, who on several occasions has had motors installed and connected within a few hours after Mack secured the contract. Mr. Patterson keeps in close touch with the New Business Department and takes almost as much interest in it as his own particular department. He carries a stock of motors from 35 horsepower down to the smallest sizes, luxolabras, large tungsten units, flaming arcs etc. There is never a time that the New Business Department cannot find him responsive to its needs, whether the need be for the connection of a new sign on a certain date or figuring out a complicated power deal.

Third, the New Business Department at Fort Smith receives the benefit of direction by the General New Business Department of H. M. Byllesby & Company, which is in charge of Mr. E. L. Callahan. The advantage of this arrangement can be discovered in scores of ways. Possibly, and very probably, Mr. Mack would not have succeeded without the inspiration, suggestions and general supervision of Mr. Callahan's office.

Having a personal interest in advertising, I asked Mr. Mack what he thought about using space in the daily newspapers.

"The copy we have used in the daily papers has been of great help to us," he stated. "We seldom or never run an advertisement which fails to produce inquiries. Every day we find instances where advertising has been of the utmost assistance to making sales and closing contracts. My experience has taught me to believe thoroughly in daily newspaper publicity. In lighting up our business section, the advertising deserves no small share of the credit."

A Heating Pad Raises Incubator Baby

Mr. A. H. S. Cantlin, Business Manager of the Allentown (Pa.) Electric Light & Power Company, has had occasion to develop a unique and interesting use for the electric heating pad. A premature baby arrived in Allentown four months too soon and it was necessary to devise an incubator at once. It is necessary to maintain a temperature of within three degrees of 90 until the babe is fully developed, and since any deviation over three degrees either way is apt to prove fatal, electricity suggested itself as the most dependable source of heat obtainable.

The child was placed in a bastinet and an electric heating pad was placed over it as a blanket. This maintained the proper temperature, it was found, without fluctuation, and an 8 per cent lamp was operated in series as a pilot light. The babe has now been preserved for over three months by this method and is developing satisfactorily, so the experiment is apparently a complete success.

Model Contract Forms for Ornamental Street Lighting Agreements

A very valuable feature of the report of the Committee on Ornamental Street Lighting, which was delivered before the recent N. E. L. A. Convention in New York, was the set of model contract forms submitted, as embodying the best elements of the various agreements in force between central station, municipality and property owner in the different cities where the decorative lamp post has been successfully introduced. We have several examples of the danger which lies in insecure agreements that permit the neglect or abandonment of portions of the installation, where one of the original merchants moves away and the new tenant refuses to assume his obligation. Likewise, the adequate profit to the central station must be safeguarded and the uniform effectiveness of the installation maintained. Therefore, much depends on the form of contract on which the agreement is based.

The Committee has offered this set of forms as a guide to companies who are fostering the ornamental street lighting idea and formulating their plans for its establishment.

I

Agreement Between Company and Merchants' Association Covering the Installation and Maintenance of Ornamental Post Lighting System

This agreement entered into this, the..... day of ....., 19.., by and between the ....Company, party of the first part, and the Merchants' Association of the City of ..... party of the second part, to wit:

First: Party of the first part hereby agrees to furnish all labor and material necessary for installing an Ornamental Street Lighting System on ..... Street between ..... Street and ..... Street, a distance of .....feet for party of the second part. Said Ornamental Lighting System, consisting of ornamental posts similar to drawings herewith attached, and placed as shown in map herewith attached. Wires for lighting said posts will be laid underground in conduit, in approved manner, and switches for turning system on and off will be placed ..... System will be complete from the mains of party of the first part to and including the last pole and will consist of conduits, wires, switches, posts, globes, lamps and all necessary appliances. Posts when set will be painted with one coat of ..... color graphite paint.

Second: Party of the first part will, during the term of ..... year ..... from the time lights are turned on the system, furnish the necessary current for lighting said system from ..... each night, will turn system on and off nightly, will renew broken globes and lamps, will clean globes on the first and fifteenth of each month, and will paint each post with ..... color paint once each year.

Third: For the work specified in Section One, party of the second part agrees to pay party of the first part the sum of ..... Dollars ($.....) within one week from the time lights are turned on the system.

Fourth: For the service mentioned in Section Two, party of the second part agrees to pay party of the first part, on or before the tenth of each month following service, during the term of this agreement, the sum of ..... Dollars ($.....).

Sixth: In the case of outages on the system, party of the first part agrees to rebate party of the second part, monthly, for outages of the previous month at the rate of ..... cents per outage, per post per night.

Signed and sealed in duplicate, this the ..... day of ..... 19....

.....
.....
.....
.....
.....

II

Agreement Between Property Owners and Tenants Covering Installation of Ornamental Post System

We, the undersigned property owners and tenants on ..... Street, between ..... Street and ..... Street, agree to pay to ..... the amounts herewith placed opposite our signatures, said amounts being the amount of our frontage figured at the rate of ..... per foot.

This payment is made to cover the cost of installation of a system of ornamental lighting on said street, specifications of said system being herewith attached and forming a part of this agreement.

It is understood that this agreement is not binding on the Company unless all property owners and tenants on said street agree to pay for their frontage at the rate of ..... per front foot, and that it is not binding on the owners and tenants unless the City of ..... agrees to pay for the lighting and maintenance of said ornamental system, and the Company installs said system.

All payments are due within one week from time lights are turned on, and payable at the office of ..... Company.

Name	*Owner or Tenant*	*Frontage*	*Amount*
.....			
.....			
.....			

III

Contract Between Company and City Covering Maintaining System of Ornamental Post Lighting installed by Property Owners and Tenants

State of .....:

..... *County*:

This contract made and entered into this, the ..... day of ..... 19..., by and between the ..... Company, a corporation under the laws of ....., with its principal office in the city of ....., said State of ....., its successors and assigns, party of the first part, and the City of ....., a Municipal corporation of said State and County, party of the second part:

Witnesseth Whereas, there has been installed in the City of ....., a system of ornamental street lighting extending along ..... Street, between ..... Street and ..... Street, consisting of ..... ( ) ..... ornamental columns with ..... ( ) watt Mazda lamps on each column;

And, Whereas, there is about to be installed a similar system of ornamental street lighting extending along ..... Street from ..... Street to ..... Street, consisting of ..... ( ) columns with ..... ( ) watt Mazda lamps on each column;

And, Whereas, the said columns and equipment of the same were and are to be erected under various contracts with property owners and others, whereby the said columns equipped were to be and become the property of the City of ..... and to be taken over into its contract as part of its public lighting system.

And, Whereas, the City of ..... desires to provide for the maintenance and operation of the said system of ornamental street lighting by the party of the first part.

Now, Therefore, in consideration of the premises and the mutual covenants and agreements herein contained, it is contracted by and between the parties hereto as follows, to wit:

The party of the first part shall, during the continuance of this contract, maintain and operate the said system of ornamental street lighting heretofore installed and hereafter to be installed as herein above set forth, shall renew the Mazda lamps from time to time as necessary, renew the broken globes and keep the posts painted and keep the globes and poles cleaned, and shall furnish the current for lighting and operating the said lamps and turn on the lamps and turn them off from time to time, the said lights to burn from ..... until ..... on each night in the year. All the lamp globes shall be washed by the party of the first part on or about the first and fifteenth of each month during the continuance of this contract, it being the purpose that the said globes shall be washed twice each month, and they shall be subject to the inspection of the City Electrician.

The party of the first part agrees that all wires and cables supplying current to these lights shall be kept by it free from grounds and shall be maintained by it in first-class condition.

The term of the contract shall commence from ..... 19..., as to the lights already installed, and as to the lights not heretofore installed, it shall begin as to each post from the date when the lamps on the said post are first lighted, and shall continue until ..... 19..., and from year to year thereafter, subject, however, to the right of either party hereto to terminate this contract at any time after ..... 19..., by giving the other party written notice at least ..... months prior to the time fixed in such notice for the termination of this contract.

The City of ..... shall pay the ..... Company for maintaining and lighting the said lamps as hereinbefore provided at the rate of ..... ($.....) Dollars per year for each post or column, said sum to be paid by the City of ..... in monthly installments on or before the ..... day of each month, during the term of this contract, for the lamps in use during the preceding month.

That for such time as any of the lights are out, there is to be deducted from the price to be paid for such light a proportionate part of the contract price for the time such light or lights are out.

In Testimony Whereof, the ..... Company has caused this contract to be signed in its name and behalf and its corporate seal to be affixed hereto by its President and Secretary, and the City of ..... has caused the same to be signed on its behalf and its corporate seal to be hereto affixed by its Mayor, hereunto duly authorized.

Executed in duplicate on the day and year above written as the date thereof.

by.....
Company

.....
President

.....
Secretary

City of.....

by.....
Mayor

As an Aid to Providence

At a recent luncheon of the Schenectady Board of Trade at which Dr. Charles P. Steinmetz was the "speaker of the day," the Schenectady Illuminating Company prepared a special menu card to which was attached a miniature electric lamp tied by a ribbon bow. On the back of the menu card was this unique presentation of the functions of the central station.

"In the beginning, the Creator said: 'Let there be light.'

"Providence takes care of the days; with your co-operation, we will provide for Schenectady during the night time."

Harnessing the Carnival Spirit

During the early days of the Pan-American Exposition in Buffalo, when the show was losing fortunes by the minute, and the directors were crying themselves to sleep o' nights because they couldn't seem to make the people come and spend money, Fred Thompson told them how. Fred Thompson is the man who created Luna Park in Coney Island, and the New York Hippodrome, and at that time he was running a side show at the fair. He went to the directors and said, "If you'll put this exposition in my hands for one day, I'll show you how to make it pay. The trouble is, you haven't worked up the carnival spirit."

They gave him his chance and he set to work. He put up circus posters all over the state shouting about the Big Day. That drew the crowds. He hired a lot more bands and ordered every band to *march while it played*, so the crowds would fall in step and forget they were tired. He put up a lot more electric lights so the whole place would be a blaze of glory, a regular carnival—and the trick was turned.

Right there you have the secret of the ornamental street lighting installation. It lends a bit of the carnival spirit that unconsciously warms the heart of every man, woman and child. It shows us our world with the bare material details of daytime smoothed and softened by the artificial moonlight glow that never fails to appeal. The streets stretch out before us in an inviting path of light that beckons and invites, and we respond.

There is no time of day when the shop windows are as interesting to us as in the evening, when they stand out in strong contrast against the dark of walls and buildings. There is no time when we ourselves are as appreciative and as open to impressions as in the evening when we have shed the burden of the day and walk out for an evening stroll. We may not spend a cent, but many a desire is aroused, many a suggestion is received that means business for the merchant.

And when we walk, we choose the way of cheerful brightness. That's the mission of ornamental street lighting, to apply the principle of Christmas Eve illumination, to lend a touch of that "carnival spirit" which means better business for every merchant and more prosperity for all.

DOLLAR IDEAS

Exhibit of Wiring Methods

GRACE T. HADLEY

The Building Industries Association of St. Louis maintains a permanent exhibit in the Century building. The most interesting feature is an electrical exhibit recently installed and maintained by the Union Electric Light & Power Company and fourteen retail dealers. The exhibit consists of a model office room handsomely finished in a natural oak paneling with mural decorations, a cluster chandelier and side brackets for illumination. Two fine show windows contain all new electrical devices.

One side of the model office has purposely been left incomplete and presents an interesting study in the various methods of wiring a house. A panel switchboard shows the different kinds of switches and classes of fuses. A single glance at the side of this building suffices to demonstrate the safety and superiority of the rigid conduit system over the knob and tube concealed wiring. Both rigid and flexible conduits are shown, also the B-x Greenwich cable.

The Planning of Good Printing

A Little Talk on the Value of the Original and Artistic in Advertising and the Logic Behind It

By Cyril Nast, Advertising Manager, New York Edison Company

DESPITE the oft heard cry of "Extravagance" good printing is a great help in selling any commodity. The first thing to consider, of course, is the class of people to whom you are trying to sell, and the next, the most appropriate language in which to appeal to them, but the planning of the printing is one of the most important points of an advertising campaign, something rather better than the ordinary is bound to attract more attention than a commonplace, cheap looking job. If the printing must be planned with a view to economy, the commonplace can be eliminated and the idea of the advertiser brought out strongly enough to appeal to your public, without the advertisement being very costly to print, but there are many things to be thought of if we are to obtain a well finished job. Photographs or drawings, engraving, type, paper, press work, etc., are all important matters, because if any one is not good, the result will be the spoiling of the whole.

It has been my good fortune to work in harness with good artists and printers, and to work for a company that appreciates fine printing, believing it better to secure the best results, although doing so may involve a greater expenditure. But, in consequence, there is a popular belief that our printing costs more than it really does because it is always a little bit better than the usual stuff people see. For it is not necessary for the printing to be very costly to secure variety and originality now-a-days since with the many different colors and finishes of paper on the market, very fine results can be obtained by using two, or in many cases, only one color ink.

Several years ago, I arranged some letter heads for follow-up work with which I used the Cooper drawings illustrating the subjects of the letters to be written. These are the well-known Knickerbocker characters which appear in practically all the New York Edison Co. advertising. The series included six or eight different styles, and since that time, I have planned and printed at least two hundred others, pertaining to the various devices and appliances for which we sup-

Cyril Nast

ply current. None of the drawings used were specially designed for letter heads, but these Cooper types are so clearly drawn that they reduce extremely well, and with a little care and thought about arrangement and colors it is very easy to get up a letter head that will attract favorable attention.

Some of the letter heads and other printed matter that we issued several years ago do not seem as good to me now as they did at the time. Reading the advertising and printing trade papers, attending meetings of the Ad-

Characteristic Letter Heads used in New York Edison Co., Correspondence. The Letter Head is chosen for its Application to the Subject of the Letter.

vertising Men's League of New York, and the Technical Publicity Association, and last and most important, the Parsons course on "Advertising Arrangement," has educated my taste and helped me to bring my work up to a much higher standard. It has been said that good printing is not generally appreciated, but nine times out of ten a well printed advertisement with some pointed selling talk or a picture showing the goods advertised, or both, is sure to be more effective than a cheap job with nothing behind it.

Color should be used so that it expresses the same thing that you are saying in your copy, just as an illustration should fit any story. If you send out a circular about electric radiators in winter, you will not print the picture of the radiator in blue ink on grey stock because it would give the prospective buyer a chill to see such cold colors, and your circular would lose all the effect desired, but, on the contrary, you would use buff stock with an illustration in brown, or possibly an orange tint behind the cut to impart warmth of tone to it. When one talks about electric fans, there is nothing like printing a circular in blue and grey or any other cool tints available.

The little "Edison Man" that we have used so extensively in illustrating our advertisements always so clearly shows the application of current in some form that very little copy is needed. This emphasizes the fact that pictures that do not properly illustrate what you are advertising are worse than useless, no matter how good the copy may be. An irrelevant picture diverts the mind of the reader from the matter advertised, and it is far better to use good strong copy, well arranged and displayed and easily read, leaving out the meaningless picture, which is a waste of valuable space.

Until the "offset process" of half tone printing was brought down to a practical commercial basis, we had half tones of photographs made showing good samples of installations and printed on the regular calendared paper and pasted on the letter head after the letter was written, which was a tedious and rather expensive operation. It is now possible, by the offset process, to print fine half tones on rough finished paper and secure good detail, and the making of the plates only costs

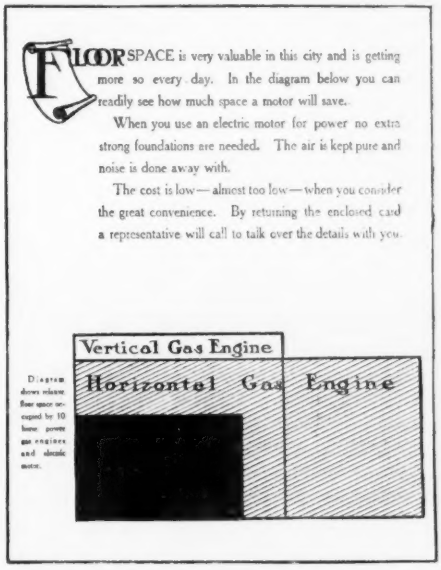
a little more than the regular half tones. The printing is not much more expensive, while the time saved, the neater appearance, and the better general results are well worth the slight additional cost.

Some time ago we brought out a folder which showed the floor space saved by the use of a motor in place of a vertical or horizontal gas engine. This circular was printed on a wood veneer, producing a very realistic effect. A diagram, showing the floor space taken up by each engine, was printed in black, and the small space occupied by the motor was indicated in red. The color combination of a buff tinted wood and the orange red and black inks made a pleasing result. This piece of advertising attracted a great deal of attention, and as the number sent out was small, the cost did not matter so much. The thing that made this job expensive was the necessity for pasting two wood veneers together so that the inside and outside would appear the same. To have had wood on one side and paper on the other would have ruined the effect. Practically the same result, however, can be secured with a piece of stock rather lighter in color than the wood you wish to represent; then have a half tone made of a strong-grained bit of wood and print it on the paper. The effect will be as realistic as the wood itself, and very much less costly.

At one of the Electrical Shows we distributed some night views of New York that were printed on heavy, high-finished paper, with a half tone made direct from the photograph of a wooden frame, and printed at the same time as the picture. The effect was that of a framed picture and was much admired.

A folder issued for the Power Department produced a very good imitation of a blue print tipped in on hand made paper; it made a very dignified and effective bit of advertising. The blue print was reproduced by making a reverse zinc plate from an ordinary drawing such as is used when making a blue print; in other words, the part that would be white came out black and the lines in black came out white, the plate was printed in blue ink which when dry had a very dull appearance and was, to all appearances, an actual blue print, but at a very much lower cost.

There is a double faced cover stock now made that is colored in delicate tints on one side, and is white on the other side. This paper was used for an iron folder, combining light brown with white, and giving practically a


FLOOR SPACE is very valuable in this city and is getting more so every day. In the diagram below you can readily see how much space a motor will save.

When you use an electric motor for power no extra strong foundations are needed. The air is kept pure and noise is done away with.

The cost is low—almost too low—when you consider the great convenience. By returning the enclosed card a representative will call to talk over the details with you.

Vertical Gas Engine

Horizontal Gas Engine

Diagram shows relative floor space occupied by 10 horse power gas engines and electric motor.

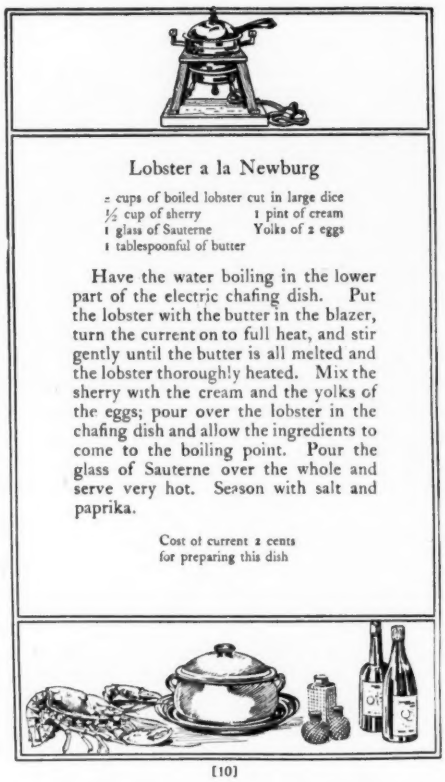
This is the Folder which Mr. Nast Describes as Printed on Real Wood Veneer. The Delicate Grainings of the Wood Unfortunately do not Show in the Reproduction

three-color combination with one printing of grey ink. The copy was strong and simple, and the folder was sent to customers residing in the Bronx. A great many replies were received, and a large number of irons were sold as a result. A book entitled "Recipes for Cooking by Electricity" and issued by this company, was picked out by Frank Albert Parsons, Director of the New York School of Fine and Applied Art, as the best booklet that he had seen this season, on account of its coloring, its drawing, and the typographical get-up. The drawings were made by an artist experienced in this kind of work, one of four who had

competed for the job. The type used was Caslon, with plenty of white space, so that it could be read easily, and the border and the drawings that surround the type was printed in grey, which with the black type, made a very harmonious whole.

Several years ago, I was called on to get out in a hurry a cover for a lamp price list, and I simply had my own hand photographed, holding a number of different sizes of lamps, and a half tone made, with a tint block to cover the whole page. The tint behind the lamps was cut out in order to have them appear whiter than the rest of the picture and an artist supplied the lettering "Lamps Kept on Hand," which did away with the necessity for a special drawing that would have taken longer and cost more.

For artistic effects, we have used a "mezzo-screen" several times in The Edison Monthly, and the results have been more than worth the slight extra cost of a mezzo-screen half tone. Of course, some of the detail is lost, but the artistic effect more than makes up for the loss. The mezzo-screen has to be used with discretion, however, as it is practicable for large buildings, night views, but not for the reproduction of small devices where the showing of detail is imperative. The use of tint blocks is a very interesting study, and there are so many different kinds of graining, and qualities of screens that with a little consideration and planning some very excellent effects can be secured with but one extra printing.



Lobster a la Newburg

2 cups of boiled lobster cut in large dice
½ cup of sherry
1 glass of Sauterne
1 tablespoonful of butter
1 pint of cream
Yolks of 2 eggs

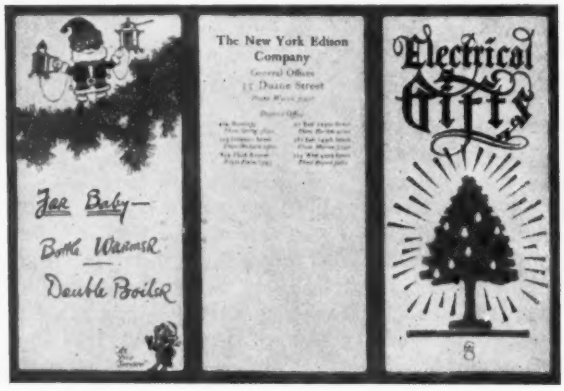
Have the water boiling in the lower part of the electric chafing dish. Put the lobster with the butter in the blazer, turn the current on to full heat, and stir gently until the butter is all melted and the lobster thoroughly heated. Mix the sherry with the cream and the yolks of the eggs; pour over the lobster in the chafing dish and allow the ingredients to come to the boiling point. Pour the glass of Sauterne over the whole and serve very hot. Season with salt and paprika.

Cost of current 2 cents for preparing this dish

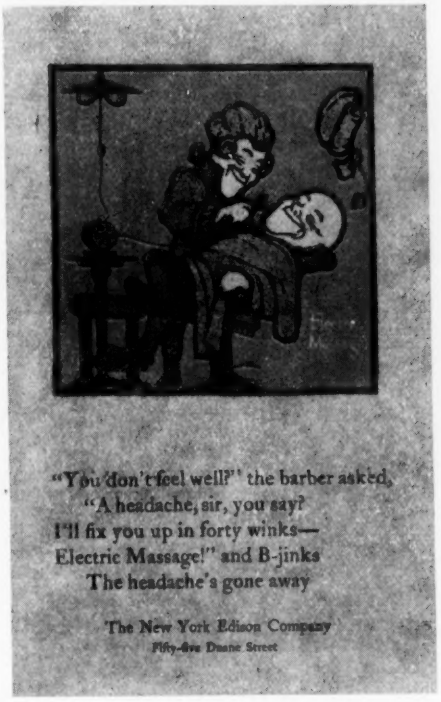
[10]

A Page from the New York Edison Book of Recipes. The Effect of the Tint Plates is not shown.

The Cooper drawings are so easy to manipulate that I am able to apply them in many ways by simply changing the size and arrangement. The alphabet we got out for distribution to children at the 1909 Electrical Show has since done service on many other occasions, by cutting away the initial and using an appropriate picture for the advertisement to be issued. A little blotter that we printed a short time ago is a rather remarkable bit of printing, for the reason that the illustration, an interior view, was taken



A very Clever Piece of Holiday Printing. The Colors were Red, Green and Black and the other side shows Gifts for Mother, Father and Sister



A Characteristic New York Edison Co. Folder The Color Scheme of the Original is Exceedingly Effective.

by a small camera without any flashlight, and the negative and print were not retouched in any way. The half tone is the actual size of the original print, and the electric light over the dining room table was the only source of illumination when the picture was taken.

Last year's calendar issued by this company was illustrated by Cooper drawings in four colors, one for each month, and was rather an expensive job, but since the calendar came out we have used these same drawings in two colors on postal cards, with poetry, and also in one color on other postal cards, with fac-simile hand writing printed in a blue ink, giving the effect of each card being written separately. Some very effective cards and folders can be made by use of fac-simile hand writing, for the cost of a zinc plate is small, and only one printing is required in most cases. These are bound to receive more attention than an ordinary printed circular if properly used.

Many of the readers of this article have probably experienced difficulties in getting up advertising matter that would combine simplicity, economy, variety and effectiveness, and it is the hope of the writer that he may have given someone a few suggestions that will be of assistance. Good advertising must have its foundation in proper planning, and its superstructure consists of judicious arrangement, appropriate illustration, and appealing copy. But with the printer rests the crowning achievement, for the advertisement, to be wholly good *must* be well printed.

Special Letter Heads used in Writing Sign Prospects A Letter Head is Chosen Showing a Sign which Advertises the same Line of Business as the Prospect.

Abstracts of N. E. L. A. Commercial Papers

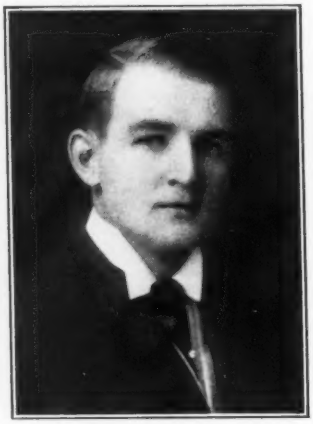
A Few More of the Papers Which Attracted the Attention of the Commercial Men at the New York Convention

Report of Committee on Electricity in Rural Districts*

John G. Learned, Chairman

Introduction.

The title under which your Committee was constituted suggests especially the use of electricity on the farm; but we have construed our commission to include the broad subject of electricity applied to all those requirements



John G. Learned,
Cont. Agent North Shore Electric Co.,
Chicago, Ill.

which are found and may be developed in all territory outside of cities and towns proper.

From data secured it is evident that the average power business of a customer in well and permanently established districts is off-peak load, and further, that the lightning load is very often off-peak also. It is likewise evident that a great many customers can be secured who will be profitable customers, consuming enough current to pay the central station for the effort to reach them when served on the same basis of rates as applies in adjacent towns or cities. It should be noted that, unless this latter feature is observed, the farmer will regard the rates as excessive and will naturally turn to other means, now so continually offered him. Further, the business should be encouraged in other ways, such as installment payment offers for utensils or motors, cost prices on wiring, and similar inducements.

The manner in which business is solicited varies so largely in different parts of the country that local conditions will necessarily have to govern. Where this business is difficult to obtain, an excellent entering wedge is the small electric pump for either irrigation or drainage purposes.

The practical value of electric service to the farmer includes both the saving of his time and the reduction in the amount of hired help he needs, and also a definite improvement in the growing of his crops and the quality of his produce by means of electric power for irrigation, watering of crops by the spray system, and proper drainage.

Although it is sometimes a difficult matter to secure the farmer's business, when once he starts using the service and is convinced of its flexibility, economy and convenience, he invariably adds to his original installation.

Lighting

It is not hard to show the progressive farmer the economy, convenience and minimum fire risk of electric light for his house, yard and farm buildings. In the event of trouble in the barn or yards at night, it is not necessary to get up in the dark and hunt for a lantern.

With the use of electricity, the modern farmer may have all appliances commonly used in the city.

*This paper contained almost 100 large photograph illustrations of great interest and value. Members of the N. E. L. A. having immediate use of this paper may obtain copies for a small sum by addressing the Secretary of the Association.

Pumping

Pumps are a very important item of farm equipment, and motors may be readily adapted to the operation of all types. The automatic feature of the electric pump for drainage or tank-supply service will be invaluable to the farmer for all locations at a distance from the house.

Refrigeration

Electric refrigeration likewise has a strong appeal for the farmer who has enough perishable produce to use it to good advantage, and he is fully aware of the financial advantages of keeping his produce in cold storage to obtain higher prices. On farms where much milk is produced, and in every dairy, power for refrigeration and for circulating fresh milk over a cooling surface is a practical necessity.

Power

Tilling the soil is now accomplished with electric power, the plow being drawn back and forth across the field by an endless wire cable. Disc cultivators and harrows are similarly operated.

The electric-driven thresher is no different from the steam or gasoline-driven machine, except that it is belted to a portable motor attached by flexible cable to a convenient source of supply.

Very important applications are the motor-driven hay press and hay hoist.

There is further work for the portable motor in operating ensilage cutter, husker and shredder, sheller and similar machines. Feed grinders are generally driven from a small motor which is belted to a line shaft, as are also grindstones and woodworking machinery.

Appliances in daily use in the dairy include the electric churn, vacuum-operated milking machine and cream separator.

The electric incubator is simple and satisfactory.

In stables the electric horse-clipper and the vacuum cleaner are time and labor-saving devices.

Consequently, large farms are equipped with workshops where motor drive may be readily adopted.

Value of the Portable Motor

The system of employing a single portable motor for a number of machines, just as the present steam or gasoline engine is employed by the farmer, reduces the necessary investment and is of great value in securing business. The grist mill is becoming a common piece of farm equipment, and electric drive may be readily applied to it.

Machines used on the farm, which may be motor-driven.

Air Pumps	Portable Motor Outfit
Water Pumps	Hay Press
Churns	Thresher
Cream Separators	Ensilage Cutter
Cow Milkers	Bone Cutter
Feed Cutters	Drier
Corn Shellers	Wood Surfacer
Shredders	Planer
Drills	Mangle
Horse Clippers	Elevator
Ice-Cream Freezers	Refrigerator
Ice Machine	Meat Grinder
Washing Machine	Lathe
Ironing Machine	Circular Saw
Sewing Machine	Band Saw
Vacuum Cleaner	Ice-Making Machine
Hay Hoist	Sprinkling System
Grist Mill	Plow
Husker	Truck

Power Required by Farm Machinery.

Thresher	5	H. P
Cow Milker	½	H. P.
Grindstone	¼	H. P.
Grist Mill	15	to 30 H. P.
Refrigerator	5	to 25 H. P.
Pump	½	to 25 H. P.

Cream Separator

Capacity,	350 gal. of milk per hr	½ H. P.
Capacity,	450 gal. of milk per hr	½ H. P.
Capacity,	650 gal. of milk per hr	½ H. P.
Capacity,	850 gal. of milk per hr	1 H. P.
Capacity,	1,000 gal. of milk per hr	1 M. P.

Hay Press

		tons per day	
14″x18″ Bale Chamber	Capacity,	12	3 H. P.
16″x18″ Bale Chamber	Capacity,	14	4 H. P.
17″x22″ Bale Chamber	Capacity,	16	6 H. P.
14″x18″ Bale Chamber	Capacity,	10	2 H. P.
16″x18″ Bale Chamber	Capacity,	10	2 H. P.
17″x22″ Bale Chamber	Capacity,	12	3 H. P.

Makes a bale, approximately, 120 lbs.

Feed Grinder

		bu. per hour	
8″ large or small make	Capacity,	8	4 H. P.
16″ large or small make	Capacity,	36	10 H. P.

Machine runs at 75 r. p. m. for each H.P.

10″	Capacity, 15	6 H. P.
10″	Capacity, 50	15 H. P.

Husker

6 row Capacity, all that one man can carry	15 H. P.
Two 6 row. Capacity, 300 to 400 bu. per hour	12 H. P.
4 row. Capacity, 175 to 250 bu. per hour	8 H. P.
2 row. Capacity, 100 to 200 bu. per hour	4 H. P.

Were your Committee to attempt to list every variety of industry which may be found in rural district they would have to include practically every known kind of manufacturing business.

Among these are stone quarries and gravel pits. The power business of these industries is highly desirable, being, as a rule, eight-month business, and strictly "off-peak."

These industries require power for the operation of hoists and haulage apparatus, crushers, screens, pumps, air compressors or electric drills, using the power directly at the machine.

Stone yards use the following machines which may be operated with electric drive: circular and oscillating saws, slate band-saws, pumps, polishing stones, stone planers, stone saws, drill presses, marble drill presses, stone crushers, etc.

Cement mills and brick yards are also generally located in the country, and this class of business presents possibilities to the central station company.

The following are the machines which may be driven with electric power: brick machines, granulators, pug mills, grinders, hoists, car conveyors, bucket conveyors for dry pans, bucket conveyors for coal, pumps, belt conveyors and loading machines, and miscellaneous machine shop equipment.

Grain Elevators

Electric power and especially electric light, is highly desirable in grain elevators. Probably the heaviest application is electric car haulage; next to this come oat clippers, vertical and horizontal conveyors, passenger elevators, fans, etc. A grain elevator in the country districts, operated at very irregular periods, affords a splendid opportunity for securing the business, as this feature makes it difficult to maintain a steam plant and attendants for it.

Power is required for saws, hoists and conveyors in ice cutting and is strictly a day load and "off-peak" business. The power is required for a short part of the year, consequently it is good practice to let the customer pay for the transformers and meter the service on the primaries. At the end of the season the fuses of the transformers are to be removed.

Recommendations.

1st.—That the United States Department of Agriculture be urged to get out a bulletin on the use of electricity on the farm.

2d.—That a set of resolutions, similar to those adopted by the National Gas and Gasoline Engine Trades Association, but adapted to the special objects of this Association as regards the use of electricity in the rural districts, be prepared by a committee to be appointed by the chair, and that they be brought up for adoption by the Association; and that a committee be appointed to personally take an official copy of said resolutions to Washington, D. C., and present them to the Secretary of the Department of Agriculture.

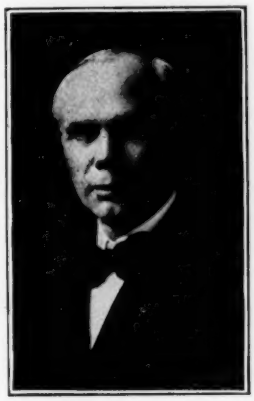
3d.—That an investigation of types of farming machinery now being manufactured be made, with a view to securing adaptations which may be necessary in their design to render them readily adaptable to motor drive.

4th.—That the Association employ an expert to write both technical and popular articles on the subject of the use of electricity in the rural districts, which may be supplied to publications.

Master and Men

By Paul Lupke.

In the good old days when everybody who had to work at all worked from daylight to dark and slept all night, it would have seemed ridiculous to put the question, who is master and who are the men, but in these better new days the question seems quite legitimate and is by no means easily or readily answered. Though rational



Paul Lupke
Superintendent Public Service Corporation of N. J., Trenton, N. J.

welfare plans may make us all friends, and extensive profit sharing schemes may make us all partners, still masters and men we always must be and always will be, and wherever difficulties exist, they are largely due to the fact that we have allowed the distance between master and men to grow in proportion to the expansion of our business. So it may have come about that to the lower levels ultimate authority filters down only through the medium of a printed fac-simile signature and that is a dead thing. The real masters, now and then, do not know their men and the real men just as often do not know their masters, and that is the nub of the trouble.

After one of those necessarily rare occasions on which the highest officials had visited the outskirts of their company's extensive property, an old and a young fireman were watching the automobile whisking away the dignitaries.

"Say Pat," said the younger, "which one was the President, the tall one under the pancake cap or the little one inside the big fur coat?"

"Dennis boy," said the old fellow, "I have worked here many a year, but I don't know; what is the use of bothering your head about it anyway? Did you notice, they peeped into the furnace standing way back against the wall, and they squinted up at the stack to see the smoke we made, and they walked around the coal pile to find out if it was all there, and, mind you, one of them scratched the old ashcart mule kind of friendly like between the ears—but never a look or word they had for the likes of us."

For those who understand human nature comment on this would merely blunt the point, for those who do not, it would be useless, so I make none.

There is a way equally as far removed from apparent indifference as it is from gushing volubility, that goes straight home, and, whether it manifests itself in recognition of accomplishment, or fair censure of fault, it can be made to help in welding that bond of common interest that must exist between master and men before the question at issue can be brought much nearer a permanent solution. To find that way is a problem as old as civilization.

Protracted discussions across the polished board in the directors' room are without doubt absolutely necessary preliminaries; still these, together with the laborious working out of the details by the Auditing Department, constitute but the beginning of the problem. When all the blanks have been carefully prepared, printed and distributed, we are apt to sit back comfortably prepared to listen to universal pæans of praise, and are chagrined to perceive a whisper of suspicion and horrified to hear a single shrill note of dissent. Yet the best welfare plan may meet a bad reception if the same

care has not been exercised in presenting it as has been bestowed upon its preparation. Launching an elaborate welfare plan without any attempt to educate the men up to its appreciation, is like sowing good seed into an unplowed field. In the work of preparation nothing is so effective as a personal presentation. A few words with the red blood of life in them are worth an avalanche of pamphlets.

Any welfare plan, no matter how liberal in conception, must be surrounded by reasonable safeguards, the necessity of which is at once apparent to the master, but the bare statement of which in cold print may prove baffling to the men.

This then would be my humble advice as to the method of procedure when the time is ripe for the promulgation of a welfare plan. Let him whose mind has conceived the plan try earnestly to imbue those next around him with his own enthusiasm and charge them solemnly to pass it down the line undiminished, step by step, to the very last man, and when that is done, and not till then, let it hail blanks.

And if that way is right for the welfare plan it is ever so much more important to follow it in a profit sharing scheme.

Profits are something radically new to the men. Masters with the long distance view ever before them, may find it hard to realize the state of mind of the man. To the man five dollars are always just five dollars. "We want ours cash down, all of it, once a week, right here and now while we can enjoy spending it, and not when we are sick, or old or dead," that is the frigid attitude of the men.

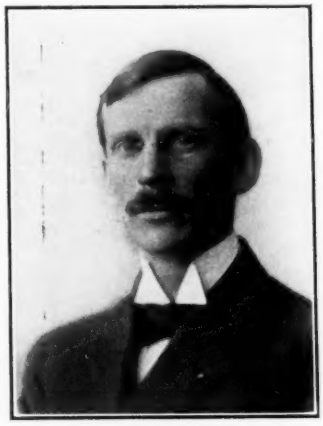
If you can manage to educate this short-sighted view out of the men and really convince them that not every dollar they can call their own must necessarily be in the vest pocket, they are ripe for a profit sharing plan for they will be about ready to ask for it, and that is the psychological moment for its promulgation.

Report on Electric Heating, Refrigeration and Kindred Appliances

F. H. Gale, Chairman

Commercial Electric Heating

Your Committee finds much to encourage and stimulate the central stations in the reports submitted upon the development and industrial use of electrically heated tools and appliances. Results of great economic im-



F. H. Gale
General Electric Company,
Schenectady, N. Y.

portance are being obtained by consumers who have introduced these advanced methods, and the additional revenue collected from such sources seems to warrant careful consideration as to the possibilities in the way of long hour and off-peak business, in combination with other forms of power supply.

(Here follows in detail a general review of the electric heating appliances available for melting large quantities of metal and liquids, and for specific services in laundries, metal trades, printing and allied trades, wood working, leather, clothing and textile trades, laboratories, hospitals and miscellaneous applications.)

General

One of the principle points brought out by the investigations of your Committee is the lack of data upon

existing installations and of general knowledge covering the possibilities in industrial plants. Items covering interesting applications appear from time to time in the technical press; in papers read before various associations, and in the reports of special committees. These data are lost sight of and are not readily available when questions as to such applications arise. For these reasons it would seem essential to the future progress of this line of work that information and data should be gathered in such form as to be at all times on hand and up to date for the use of the member companies of this Association.

Cooking Outfits and Ranges

A definite demand has arisen for electric ranges that follow in design and use the lines of the ordinary gas range. Of these types available, some require special utensils which lock on to the electric stoves, while other types are adapted for the use of ordinary kitchen utensils. One type of range is now available which doubles the amount of wattage used in the stoves; therefore about halves the time hitherto required for cooking on them. Of course, this increases the maximum demand of the central station, but high wattage is necessary to really compete in speed with the gas stove. Unquestionably the cooking outfit with self-contained electrically heated utensils is more efficient than the electric range, but the greater convenience and adaptability of the latter makes it more popular. Improved resistance materials make "radiant" broiling practical in a range.

The matter of rates for such installations is a more difficult problem, although in most places the use of these appliances will be encouraged by power rates in order to popularize electric cooking. Even at such rates they will usually be found profitable.

Commercial Cooking and Baking

Both the central stations and manufacturers are now recognizing the practical possibilities in commercial electric cooking and baking; there seems to be some doubt among a number of central stations, however, as to whether a low cost of current for this purpose could be offered, without disturbing the sale of current at the established rate. When one considers that the appliances, to prove satisfactory in this work, necessarily consume a large amount of current, as compared with the domestic devices, and that they are in operation during a large number of hours each day, it would seem that the business should be properly considered on a power basis.

Where complete kitchen equipments have been installed, it is found that the amount of current required to do the work is considerably less than might be expected. In such cases, for regular meals, a fair average seems to be 300 watts per person. This, of course, does not include heating the large amount of water which is used in these kitchens. It is probable that in so-called "European Plan" hotel kitchens, because of heavy special meals, this figure would be increased to 400 watts. It is evident from this that the cost of electric cooking on a large scale at a favorable rate is feasible from the hotelman's standpoint.

Until recently, manufacturers had not brought out an electric range suitable for hotel work, due to the high temperature which is required on the cooking surface of the range; but the development of high temperature stoves has finally overcome this difficulty; and hotel electric ranges can now be secured that not only do the same work as the coal-burning ranges but have many advantages over the latter. It is believed that, as the hotel men become more assured of the reliability and the advantages of this class of cooking apparatus, the number of such installations will rapidly increase.

Another branch of commercial cooking and baking being considered by many central stations is that of large bake ovens in commercial bakeries. The fact that in most bakeries the bread is baked after ten o'clock at

night will permit the central stations to offer a comparatively low rate for this work. It is not understood that any large bakery has up to date adopted electric ovens exclusively. In fact, it is only within the last few months that suitable ovens have been available; but it is believed with suitable effort along these lines on the part of the central stations, a very desirable night load can be built up.

Domestic Lighting Appliances

A great advance has been made during the past few years in the manufacture and sale of all kinds of electric lamps for use in the home.

As to the value of these illuminating adjuncts with reference to their revenue-producing value: In a residence using the ordinary method throughout the house, with chandeliers and brackets, the use of these, without supplementary lighting, is restricted to the same method in vogue before the advent of electric lighting. By the use of portable lamps, miscellaneous novelty lamps, fancy lamps, etc., the great convenience of electric lighting is at once apparent, and there is no question but that the total additional income derived therefrom is quite considerable, although little data is available.

Whether central stations should actually sell these appliances is a mooted question; but it is the consensus of the best judgment that they should be given a prominent place in the show room. The amount of revenue derived from these appliances does not warrant their being sold at cost—a practice which should also greatly discourage their sale, and consequent revenue, through dealers. The extension of this revenue from miscellaneous lighting fixtures and portables is greatly promoted in those homes where forethought has been shown to provide frequent and suitable baseboard, floor and wall outlets.

Refrigeration

Refrigeration for the home has not, as yet, assumed very large proportions on account of there not being any satisfactory system in sufficiently small units; but from present indications, the subject is receiving very serious consideration at the hands of the manufacturer; and without question, the near future will bring forth suitable devices which should make it possible to promote this class of business with encouraging results. One manufacturing company reports the total sale of 170 one-quarter ton outfits, the smallest size for residences, in the vicinity of New York City and New Jersey. They claim this outfit to be economical for any household which uses 40 lbs. or more of ice per day.

Much progress has been made in the past few years in introducing electric motor drive refrigeration in the commercial field, especially in hotels, apartment houses, restaurants and markets and the possibilities in this direction are well nigh unlimited. A new application of refrigeration has recently been made which the Committee feels is worthy of the close attention of the manufacturers and the hearty support of the central station companies.

This refers to the use of refrigeration as a means of cooling the air in the living rooms of private residences, as well as apartments, hotels, etc. There have been a few installations of this kind already made. The present method is to use the refrigeration system for all ordinary purposes of refrigeration in the building, and to provide additional means for cooling the air delivered to the living rooms. A properly designed outfit will enable the maintenance of a uniform temperature throughout the house at all seasons of the year. One installation of this kind is in Philadelphia.

Ventilation and Air Purification

The value and necessity of proper ventilation in all public buildings, offices, etc., is becoming very fully recognized, so that no modern buildings are at present constructed unless a proper ventilating system is provided. This makes a particularly de-

sirable load for a central station because it operates in office buildings particularly only during the day. In addition, all restaurants, cafes, saloons, public meeting halls, laundries and nickelodeons must have some method of ventilating. The cheapest and most satisfactory is a disk ventilating fan placed in an outside wall operated from central station power. These fans vary from a few inches in diameter up to very large sizes.

School houses are very satisfactorily operated with central station power for ventilating fans, as it is customary to start the ventilating system early in the morning about 4 o'clock and run it steadily through until school closes, perhaps at three o'clock in the afternoon, thus this load keeps absolutely off the peaks and is particularly desirable.

Ozone apparatus for air purification and as an adjunct to ventilation has been marketed in Germany for a number of years. Within the past year the activity of several American companies in selling ozone generators promises a development of the business that is interesting to the electrical world.

Vacuum Cleaning

The past year has produced a great change in the attitude of the public toward this most useful device. At first it was necessary to create the desire and prove the practicability, but today the public attitude is that of seeking the purchase of some cleaner, and it becomes only a question of choice. Literally thousands of these cleaners are being placed in service and with unvarying success.

All modern office buildings are being constructed with arrangement for vacuum cleaning. These present a very attractive proposition for the central station, as the cleaners are driven by motors varying in size from 1 or 2 h.p. up to perhaps 50 h.p., so that the load is highly desirable. The vacuum cleaning situation is one which the central station cannot afford to ignore in any way.

Small Motor Appliances

Small motor appliances have gained much favor both in stores and shops and in the home, and motor-driven grinders, buffers and polishers are finding their way into the electric installation with increasing rapidity. The bell ringer for operating door bells, annunciators, etc., is a most useful and satisfactory device, and eliminating, as it does, all the troubles and vexations incident to the use of dry or wet batteries, its use has steadily increased to and should be in every installation using alternating current.

The six and eight inch fan motors have much to increase the use of the electric fan in residences, and has opened anew this field for the exploitation of this useful and faithful device in the home.

The Convention Papers

The following list of the printed papers which were presented before the New York Convention of the National Electric Light Association is given here for two reasons. It is an eloquent testimonial to the practical usefulness of the Association and the faithful diligence of those members who each year compile this mass of invaluable data. Also, it serves to marshal the complete array within the eye's grasp.

The man who attended the convention and claimed his weighty envelope, had no time to read the papers there, and when he returned home after the junket, the pile of waiting work sadly interfered, with the result that there are many valued papers still unread. Moreover, that stack of pamphlets is discouraging. Just run over this list and check off those reports which offer you assistance, and take them out of the pile.

Commercial Papers

Report of Committee on Power.*
Report of Committee on Electricity in Rural Districts.‡
Report of Committee on Ornamental Street Lighting.*
Report of Committee on Electric Vehicles.*
Report of Committee on Residence Business.*

Report of Committee on Electric Heating, Refrigeration and Kindred Appliance Sales.‡
Report of Committee on Improved Wiring and Equipment Standards.*
Report of Committee on Industrial Lighting.*
Report of Committee on Electrical Advertising (Signs).*
Report of Committee on Competitive Illuminants.*
Report of Committee on Advertising and Publicity.*
Report of Committee on Functions of a Sales Department.*

General Papers

Report of Insurance Expert.
Preliminary Report of Committee on Overhead Line Construction.
Preliminary Report of Committee on Uniform Accounting.
Report of Committee on Progress.*
"Master and Men," by Paul Lupke.‡
Report on Bulletin Question Box.
Report on Question Box Revision.
Report of Library Committee.
Report of Handbook Committee.
Report of Doherty Gold Medal Committee.
"Company and Company Section Bulletins," by E. A. Edkins.
Report of Committee on Rate Research.
"Elements Effecting the Fair Valuation of Plant and Property," by W. F. Wells.
"Some Reasons for Difference in Price for Different Services," by N. T. Wilcox.
"The Standardization of Electrical Selling,"* by Douglass Burnett.
"Economies in Operation Possible Through Time Study," by L. B. Webster.
Report of Committee on Form of Section Organization.
Report of Public Policy Committee.

Accounting Papers

Report of Committee on Uniform Accounting.
"Handling Customers' Orders," by R. F. Bonsall.
"The Collection of Bills," by E. J. Bowers.
"Electric Vehicle Accounts as Applied to a Department of a Central Station,"* by Hermann Spoehrer.
"Tracing Store Room Material," by J. T. Brady.
"The Purchasing Department," by T. W. Buxton.
"Advantages of a Job Cost System," by Alec Holme.
"General Office Accounting," by Franklyn Heydecke.
"Accounting for Depreciation," by H. M. Edwards.
"The Extent to Which a Tabulating Machine Can Be Used in Accounting Work," by William Schmidt, Jr.

Technical Papers

Report of Meter Committee.
Report of Committee on Grounding Secondaries.
"Grounding of Low Tension Circuits as a Protective Measure," by P. M. Lincoln.
"Recent Important Improvements in Single Phase Motors," by W. A. Layman.
"Relation of Motor Load to Station Equipment," by F. D. Newbury.
Report of Committee on Overhead Line Construction.
Report of Committee on Preservative Treatment of Poles and Cross-Arms.
Report of Committee on Underground Construction.
"Load Reports of an Electric System," by A. S. Loizeaux.
Report of Lamp Committee.
Report of Committee on Prime Movers.
Report of Committee on Electrical Apparatus.
"Ventilation of Turbo-Generators," by R. B. Williamson.
"Progress and Development of Self-Cooled Transformers," by M. O. Troy.

Power Transmission Papers

Report on the April Conference: Water Powers and Their Government Control.
"Central Station Power and Electricity Supply for Trunk Line Railroads," by Fred Darlington.
Report of Committee on Protection from Lightning.
"Increasing the Flexibility and Reducing the Cost of Operation of Steam Boiler Plants by the Use of Fuel Oil," by H. A. Wagner.
"Determining the Cost of Production in Steam Properties Under Varying Conditions," by G. H. Walbridge.

If your set of papers is not complete, additional copies can be secured from the Association Headquarters, if you do not wait too long. Those papers marked with the single star (*) were printed in abstract in the June issue of *Selling Electricity*. Those marked with the double dagger (‡) are printed in abstract in this issue.

Clever Booklet by Nast

"Edison Service and the Telephone" is the title of a very clever and effective booklet just completed by Mr. Cyril Nast of the New York Edison Company. It is, on its face, a booklet of suggestions for employees of the Company, but it would be hard to devise a more effective piece of literature for the purpose of advising the public of the "courtesy policy."

It is hard to appreciate the value of perfect printing, but New York Edison finds it profitable to put into each booklet issued the quality of good breeding as well as the qualities of good advertising.

SELLING ELECTRICITY

JULY, 1911

IDEAS VS. INSPIRATION

"Your services are valued according to the worth of your ideas."

If that is true—and as a general proposition it is—then about the most important thing to which a capital-less man should give heed is idea-cultivation.

Most young men, and a good many who aren't so young, have a mistaken idea about ideas. They confound ideas with inspirations.

Now, an idea is not a flash in the brain. It does not spring, full-grown, out of the circumambient ether. An idea is something that consists of many parts, and must be put together, like a jig-saw puzzle, by patient and painful effort. It is the product of much experience and mental exasperation.

About the most enervating labor in the world is the taking of a crude inspiration and making it over into a merchantable idea. The process may take a minute or ten years, depending upon the idea itself and upon the brain that evolves it. Generally speaking, a tolerably good idea can be developed in about a year, so we are fortunate in having our brains so organized as to keep from two to several hundred ideas in process at once. But while many ideas may be in process, even the brain of large capacity does not evolve more than a hundred a year, and some produce less than one.

Getting an idea ready for market requires, above all else, courage. It takes a good deal more courage to derail a dangerous idea and let it go slithering into limbo than it does to ditch a runaway motor car; and many a man with the heart to face slow death would rather do it than to give up a fool idea even when he knows it's foolish. The reason is that the fool idea is a child of his own creation and about the hardest crime to commit deliberately is filicide. But it is this courage which marks the man of saleable ideas.

The trouble with most of us is that we give the world inspirations instead of ideas. We get a "hunch" and forthwith offer it as a finished idea. Our boss looks at it with a fishy eye, perceives its frailties and, with a cynical word, pricks it in a vital spot. Then we sneak back to the hammer brigade and aver that "brains aren't appreciated in this company; what a fellow needs here is pull."

In the meantime, the boss takes our seed of suggestion and lets it lie in the back of his brain. Soon it begins to germinate, sprout. He cultivates it a bit at odd moments, pruning off an unfruitful shoot here, trimming it there. After many weeks we see it brought to fruition; hardly recognizable at best, often so changed that recognition is impossible. But, in either case, the boss has done what we should have done ourselves—he has given long, continuous, connected, constructive thought to an inspiration and has developed it into an idea.

It is true that "your services are valued according to the worth of your ideas." But half-baked ideas are not assets: they are liabilities. An idea, to be worth anything, must be finished.

FINANCIAL IDENTIFICATION

Money is merchandise.

When a young man comes to realize this fact, he steps out of the class of savings-bank depositors and becomes an investor. And until he becomes an investor he can hope for no financial independence except such as may come to him by inheritance.

Money is merchandise.

Every undertaking that requires more than the available cash of its promoter, must *buy* its capital. Capital is purchased exactly as other merchandise is purchased—the "profit," or interest, varying with the condition of the market, the risk involved and the number or rapacity of the middlemen.

The banker is a money-merchant—nothing more. He "buys" money at three or four per cent and sells it for what he can get. The difference is his profit.

So long as the individual is content to consider his excess funds as "savings" and to sell them to the banker at the lowest price, he has no more chance of independence than a farmer who consigns his produce to the commission merchant and accepts without question whatever price the middleman offers. But, when one realizes that in money he has the most sought-for merchandise in the world, he will not be content to take the lowest price, but will look about for an opportunity to market his money to the best advantage. That is the beginning of financial independence.

In this issue of *Selling Electricity* begins a series of articles on investment by H. F. McConnell. These articles have a double purpose: they explain exactly how the man with a savings account may become an investor, and they show why he should make his first investments and acquire his foundational experience in the industry with which he is familiar.

It is not to save the amateur investor from the results of his own inexperience that Mr. McConnell advises central station men to start with central station securities, but because every man who is able should, as a matter of sound business, become financially identified with his own industry. Such identification is both an evidence of faith and a bond against vacillation. The industry does not need the money so much as the young central station man needs the "anchor to windward" which a few shares in his own or another lighting company will represent.

LETTING THINGS SLIDE

The general manager of a large syndicate was speaking of certain men in his commercial department.

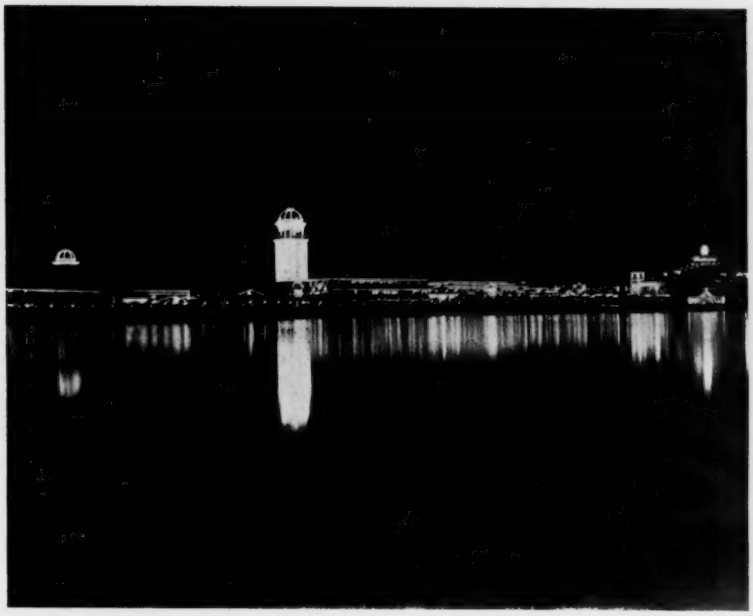
"That young fellow," he said, mentioning one of the less spectacular of the organization, "will be in charge of the Department soon. He cleans up as he goes along."

The faculty is one which, in these get-there-quick days, is beginning to be appreciated. There are plenty of men who can start things—plenty more who can talk about starting—but the man who can start, go through, and clean up after himself is the fellow who is in line for promotion.

Leaving a job half finished is not only bad for that job but is bad for the man. Repetition of carelessness soon puts a man in such a bewildered, uncertain frame of mind that his efficiency is lost in useless fluttering. And before long, the flutterer becomes one of those men who is "too busy" to do anything.

ELECTRICAL PROGRESS

Summertime Issue



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JULY SUPPLEMENT TO "SELLING ELECTRICITY"

EVERY day finds a use for it, every house has a place for it, no house wired for electricity is complete without it—

The Westinghouse Electric Toaster-Stove

creates an unrivaled place for itself in the heart of every modern woman.

It relieves her of the necessity of lighting fire in the kitchen stove to prepare the breakfast.

It enables her to prepare dainty luncheons right on the dining table while enjoying the conversation of her company.

Eggs, ham, bacon, etc. can be fried as well on the Westinghouse Toaster-Stove as on the big kitchen stove, and without the heat, dirt, fumes, etc. It can be used on a side table for keeping things warm while you are at dinner, and the finest toast in the world can be quickly made upon it.

Strongly built, it will last a lifetime; handsomely finished in polished nickel, it makes an attractive addition to any table service.

In fact there are a hundred and one reasons why it is destined to become universally used.

For sale everywhere by the leading Lighting Companies and Electrical Supply Dealers. Ask them to show you this and other electrical devices for the home made by the Westinghouse Company.

Dealers: Write us today for proposition.

Westinghouse Electric & Manufacturing Co.

East Pittsburg, Pa.

Sales Offices in 40 American Cities

Electrical Progress

A Small Magazine Preaching The Popular Application of Electricity

Summertime Issue

Electricity as a Helping Hand in Hot Weather

The Summer Comforts which Electric Service Offers

When the heat of summer begins to sink in and the collar is a-wilt, and we look forward to a full set of "dog days" but without the dog's privilege of lying in the shade—that's the time we need a helping hand. We cannot all go to the shore or to the mountains.

When Nature withholds the breeze, Electric Service is ready to play the part. The Electric Fan can be used on the porch as well as indoors.

Some of us are held at home from spring to fall and that means a heavy burden of weariness, hot days and hot nights.

But why should we put up with it? We take all this discomfort as a matter of course, but why not break the habit and crusade for more comfort, more cool breezes? Why should we not have all the help we can find to make the unavoidable work less irksome and to discount the glamour of the summer resort? Do you not realize that comfort and ease are confined in those two black wires which stretch from your house to the pole on the curb, or that enter the cellar unseen? Light is the least valuable item of electric service during the dog days.

The electric fan, electric cooking appliances, the electric cleaner, electric washing machine, the electric iron and the little general utility motor

Griddle cakes and waffles are impossible by the old kitchen method on hot mornings, but Electricity will supply them without discomfort.

which polishes silver and turns the ice cream freezer, have done more to banish the dread of summer at home than any thing else that modern money can buy. They go far to eliminate the drudgery of housework and overcome the two summer bugaboos—the

An Electric Fan in the dining room brings solid comfort. After a hot day dinner should be cool and untroubled.

servant problem and the hardship of entertaining when its enjoyment is weighted with personal effort that saps the nervous strength.

And contrary to the impression of many, the investment for electrical comforts is not great, the cost of their

There is no joy nor profit in reading in oppressive heat, and where Electric Service is available there is no necessity for it. A little Fan brings comfort.

use surprisingly small, while the boon to body and soul—well, what would it mean in your home if the burden of cooking, sweeping, washing and ironing were lifted?—if the silver could be polished in an hour, without effort?—if there were always a cool breeze in any part of the house or porch where you happened to be?

Electric service does not mean just electric light. It means a vast variety of day and night comforts conveniences and luxuries to the home that is electrically equipped. It means a helping hand in the summer weeks when effort brings quick fatigue and both health and peace of mind cry for leisure and freedom from all exertion.

The Advantage of Looking Cool

A True Story of a Clever Druggist and an Artificial Iceberg

On an insufferably hot evening last May, when the advance breath of summer caught us unawares, I was waiting for a train in a small Pennsylvania city. It was a bustling, thrifty town, with five blocks of stores and offices and sidewalks well crowded despite the heat. To kill an hour, I wandered up and down, looking at the shops, and I learned an interesting lesson.

About a square away from the depot was a drug store of medium size and with quite average appointments. But it was apparently doing a phenomenal business. An unusual number of people were passing in and out. Others stopped before the door and looked in, and I stopped, too—but it was not only from curiosity but because I was conscious of as delightful a wave of cool air as ever blew off an iceberg.

And that's what it was, really. A big, 16 inch electric fan was mounted on top of the soda fountain directly before the door, and behind it in a flat pan was a large cake of ice which chilled the air that the fan forced out over the elsewhere sweltering sidewalk.

That was not all. The rest of the store was a greeting and an invitation to every man, woman and child who stopped to enjoy the cool spot on the walk. The wood-work and shelving were painted white, the electric light fixtures were white enamel, and clearly seen through the plate glass front were three more large, oscillating fans hard at work spreading the breezes.

And the result? I walked right in with the rest, stood around and cooled off, and then made some small purchase as a silent token of appreciation.

The proprietor was standing by and I told him just why I had come in and congratulated him on the success of his methods. His answer was instructive:

"Why, don't you know," he said, "that half the summer heat we suffer from comes in through the eyes? This store might have been twice as cool as it is, but if it had not looked cool you would not have come in. I charge to advertising the small cost of these fans and the ice I blow through the door. The cash value of the increased comfort and efficiency which we enjoy ourselves is clear profit."—W. A. B.

Real Relief from Housekeeping

Why the Electric Servants are More Logical than the Time-Worn System of Going Away

From April to July the big metropolitan dailies print long columns of "want ads" headed "Furnished Houses Wanted" and "Furnished Houses To Let," and the Grand Annual Swap is on. The Jones family have a cozy, comfortable cottage in the suburbs; the Brown family possesses a cool and roomy apartment in town. Each is firm in the opinion that it is ideally situated. Yet, on the first of June, the Browns take to trunks and move out to the Jones house for the summer, and the Jones family moves into the Browns' cool apartment to have a summer of rest and enjoy the roof gardens, the fine restaurants and the beaches. Each family is confident that the rent will more than pay for the summer's change, and each finds at the end that it didn't. Why do they do it again next year?

Sweeping with a Vacuum Cleaner is not sweeping at all for there's no labor and no dust, and the house is clean, no matter what the thermometer says.

"They need the change," you say. What change?—Ah! They want to get away from the cares of housekeeping. Quite so, but are they doing it in the most logical way?

After all, home is just about the most comfortable and enjoyable place there is, and nobody else's home is quite as convenient and satisfying as your own. But the unending cycle of breakfast, lunch and dinner, with its cooking and the weekly burden of washing, ironing, sweeping and cleaning silver, becomes an unendurable dead weight in summer, both to the woman with servants no less than to the woman who does her own work. So the housewife plans upon "going away" as the only solution of the vexing problem. But why not solve

Luncheon cooked in an Electric Chafing Dish at a side table is cool, dainty and inviting on the most sultry summer day.

it by lightening the labor? If electric service can reduce the hours of work

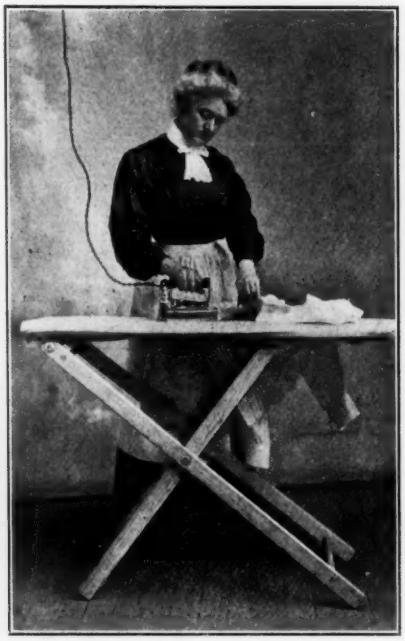
This is one of the little Electric Buffing Motors, that cleans the silver and brass. You simply hold the ware against the spinning brush. With other attachments this little motor turns the ice cream freezer, beats eggs, etc.

by 75 per cent isn't that a vacation in itself?

With a vacuum cleaner, the weekly sweeping takes only long enough to run once over the floors with the broad suction tool and there is no dusting and no aching back. With an electric washing machine the weekly

With an Electric Hair Dryer there is no sitting in the hot sun after a shampoo. The hair is dried and you are still cool.

washing is done in an hour with no labor, and the ironing in two-thirds the usual time, because there is no changing irons, no slow irons and no sizzling stove. The utility motor cleans silver in no time and with no rubbing because you simply hold the metal against the spinning buffing wheel and the surface shines. And the same little motor will turn the ice cream freezer, beat the eggs, grind meat or coffee, or do any other kitchen job where the turning of a crank is entailed; and all the while a little electric fan will keep both housewife and servants cool no matter where they may be, for you attach it to any lamp socket.



The Electric Iron saves hours of weekly work. No scorching, no slow irons, no changing irons, and no hot stove means summer comfort.

Then there are the little electric cooking devices, each one a work destroyer and a foe to worry. Here is a permanent "relief from housekeeping" which will bring hours of leisure into the home throughout the year, will eliminate one servant and cost no more than one of these "rest trips" that too often fail in their object. And the monthly wage of these electric servants will be among the smallest items in the housekeeping.

The Cash Value of a Cool Store

That the merchant must make his store comfortable and attractive to the public, if he is to enjoy its patronage, is recognized as one of the first laws of retail business. This is the argument used by the man who sells electric fans and it is accepted as the prime reason for fan investment.

A Fan whirling like this in the store doorway keeps out the flies and invites the customer, for the store is cool.

But did you ever think of the cash value of a cool store as it relates to the preservation of stock?

Here is another virtue of electric service often lost sight of, yet electric light, the electric fan and the electric ozone generator work faithfully to save stock on shelves and in cases from the baneful influence of summer heat and the chemical action of humid or devitalized atmosphere.

For example, the grocer loses money every summer from the drying out of moist sugars, cheeses, currants, raisins and the like. Butter and lard sour, and jams, jellies and preserves "work" from the heat, just as hams and bacons will "sweat," staining the wrapping and discoloring the labels. Fruits decay rapidly in stagnant atmosphere. Care has to be exercised that such perishable stock is kept off the top shelves where the air is always gaseous. Therefore, the value of electric light, because it gives off less heat than any other artificial illuminant, and no sulphurous gases, can be measured in dollars of stock saved—which is just another word for profit. Moreover, there is no discoloring of labels, which is practically as costly as the spoiling of the goods themselves—for no one wants to buy food packed in a box that is apparently yellow with age.

The shoe dealer must preserve his fine French kids, his satin slippers, his rubber soled or elastic sided shoes from the same atmospheric influence. Only with electric service can he be sure of overcoming the harmful effects of heat.

The butcher suffers from the deterioration of meats when they are out of the ice box and also in the *amount of ice used*, if he has any illuminant other than electricity. Another factor is the richer, healthier appearance of meats under electric light.

To florists, electric light and fresh air are most essential. Electric light is the only artificial illuminant that does not do harm to both cut flowers and growing plants and that does not add to the florists' expense.

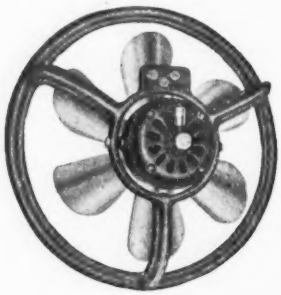
With the fruit store and the green

There is economy in the Vacuum Cleaner for the merchant. Stock is kept clean, fresh and inviting with little labor and much saving in spoilage.

grocer, where stock is purchased green and ripened, pure air and constant normal heat is necessary for the prevention of decay. The electric fan supplies the pure air; electric light prevents the store becoming overheated.

Jewelers must keep their silver, brasses and plated ware free from tarnish. No tarnish results when electric light is used.

The tobacconist must protect his stock against drying. The furniture and piano dealer must preserve the high polish on his stock. The upholsterer and the clothier must guard all woolen fabrics against decay. The paint and oil dealer must keep his paints from oozing from the cans. The druggist cannot expose certain



This type of Exhaust Fan is set high in the wall and drives the hot, "dead" air out of the store. Customers appreciate cool, pure air, and it saves the goods and lightens the burden of heat for all.

chemicals. All of these summertime dangers to stock follow when the temperature is allowed to climb too high, and the stock is subjected to the impure and oft times poisonous gases incidental to the use of flame illuminants and crowded conditions of the busy store.

The only absolute preventative is the light that does not devitalize the atmosphere, and the one practical means of disputing the influence of the torrid summer days is the electric breeze of clean fresh air. Every store and every factory where such perishable goods are kept should insure against such losses by the use of electric service.

Decorating for the Festival

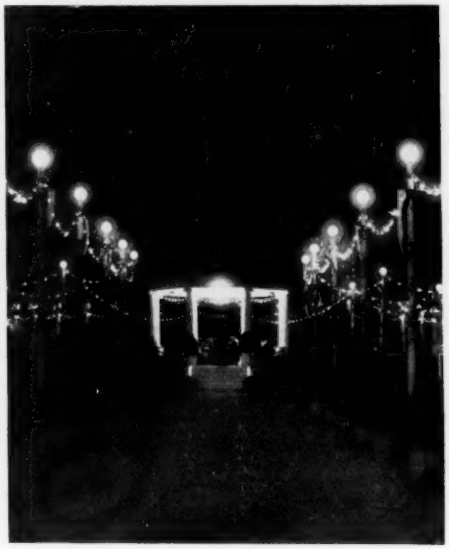
The Reason Why the Lights Bring the Carnival Spirit

What makes the summer amusement park a success? It isn't the music, it isn't the shows, it isn't the crowds—it's the *carnival spirit* that brings out the fun. And what makes the carnival spirit? The electric lights.

It is the warm glow of the countless incandescent lamps that attracts us

A Photograph of an Elaborate Lawn Festival where streamers of Electric Lights were used in decorating.

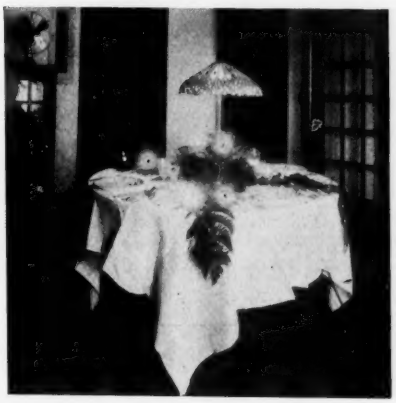
as the candle beckons to the moth, for where the crowd finds the light there you find the carnival spirit. And the same influence brings gayety and success to the lawn fete, the children's outdoor party, the church fair and any other summer festivity where electric lights are used for decoration.



Another view of the same affair. Electric Light lends the carnival spirit.

It lends a touch of fairy land, it invokes this same carnival spirit which gives everybody a good time.

A prime feature of these electrical



For interior decorating Electricity has much to offer. Here a "Christmas Tree Outfit" is used in greens on the table.

decorations is also their simplicity and adaptability. Hedges and shrubbery can twinkle with miniature lights, trees can be dotted and festooned with glowing frosted lamps, streamers and arches of light can be used to outline porch and paths with little labor and small expense. The lamps are strung on long flexible cables which can be twined about at will, and are not damaged nor affected by bad weather. Most electric light companies and electrical contractors carry a quantity of such equipment and rent it at a very moderate figure, connecting and

Another floral effect. The vase is glass but the roses glow from within.

installing it for the occasion; therefore, such festival illumination is neither difficult to obtain nor expensive.

And the effect spells all the difference between the ordinary and the complete success—a little soft radiance, a little touch of fairy land and the carnival spirit that makes the scene a true play ground.

Electro floral decorations lend charm. Tiny lamps are hidden in the chrysanthemums.

Teaching a Fan Tricks

To most folk, an electric fan is only a whirling wind-machine. Of course, that is its chief function, but there are many little tricks and uses for electric fans which add to their value and make them not luxuries but a means of economy.

A clever grocer, for instance, has a fan above his door which forces a strong current of air downward. It is a busy shop—the screen door is open fully half the time—but there are no flies inside because flies cannot live in the wind created by the fan, but are constantly blown away from the door.

The attractiveness of the flyless grocery can well be imagined.

The proprietor of a bake shop whose ovens were in the cellar installed an exhaust fan in a back area-way for summer ventilation. He noticed that the children gathered there "to get the

In a large room small Electric Fans can be placed at several points so there may be a gentle breeze everywhere. These fans consume less current than an 8-candle power carbon lamp.

smell," as they explained. The baker moved his fan so as to throw the spicy odors through a coal-hole in the sidewalk, and finds that it is the best advertisement he ever tried.

A housewife whose washer-woman last summer was compelled by sickness to give up her work, got an electric fan on trial so that the regular maid-servant could do the work in this emergency. The ironing was so easy under the cooling breeze that the housewife did not have to engage another washer-

The Ceiling Fan is the most effective type for the restaurant, and the room looks cool and is. This draws the crowd.

woman as the maid said she was satisfied to do the additional work if she could have the fan during cooking and other heavy work.

A boarding-house mistress found that she could not keep lodgers in summer whose rooms were on the west side of the house. By installing a fan behind a cake of ice in the upper hallway and leaving the transoms open, the western sleeping rooms became the coolest and most desirable in her house and remained occupied all summer.

These are just a few of the hundreds of special uses to which electric fans have been put. They simply suggest how this silent, comfort-giving little motor may be employed to do other service than that for which it is ordinarily used.

The Baseboard Receptacle

It Brings Real Comfort and Banishes the Makeshift

It is a pity that so many homes were wired for electric service in the days before the present-day conveniences were devised. So often you see a handsome electrolier connected by a long cord to some chandelier or side-wall fixture, that should be free to provide the illumination it was designed for. Or, in a bedroom, the heating pad or the fan is monopolizing the most convenient or perhaps the only lamp socket; whereas a conveniently placed receptacle, costing practically no more when the installation is made, would provide a more handy connection and do away with all such unsightly makeshifts.

Every room in the house should be equipped with a flush receptacle in the floor or baseboard ready for the emergency. In the bedroom it is an unending comfort to take care of the reading lamp beside the bed or the fan, or heating pad. In the dining room, receptacles should be provided beneath the table and beside the serving table to connect the decorative lighting outfit, the toaster, the percolator or the chafing dish. In every room you will need a connection for the vacuum cleaner, for it is a nuisance to remove a lamp each time from a fixture.

These handy outlets lie flush with the baseboard or floor and are finished and attractive in appearance.

A Croquet Court lighted by Electricity. It is so arranged that the player's shadow never stands in his way.

Tennis and Croquet at Night

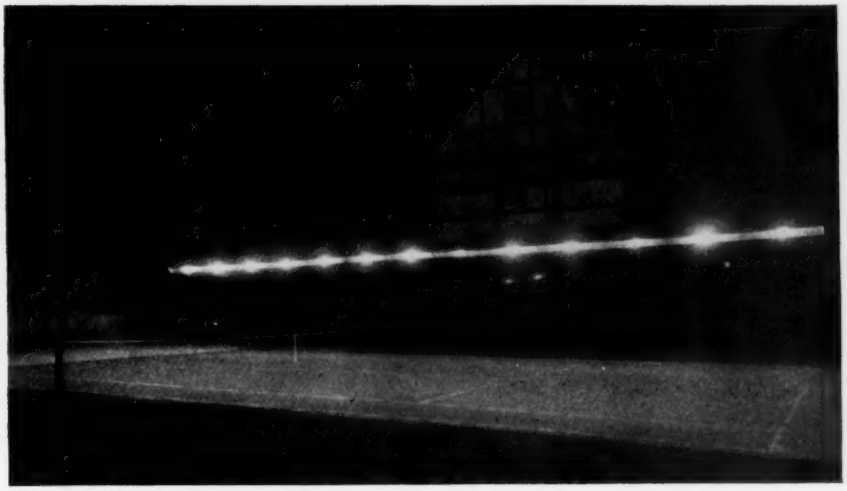
Devotees of tennis and croquet find a fascination in playing under artificial light. The idea is a novelty which many of the eastern clubs are taking up, so that we believe every player will be interested in this plan of lighting courts by electricity which has been used with good effect.

The tennis court illustrated is lighted by 13 large incandescent lamps placed in metal reflectors about 14 feet from the ground on each side of the court and 34 feet apart. With these lights the ball can be easily seen from any point of the court and the game may be played practically as well by night as by day.

The photograph shown, taken about nine o'clock in the evening, shows the extent of the illumination.

The photograph of the croquet grounds shows two incandescent lamps suspended from a wire stretched lengthwise over the court. This method of lighting is quite inexpensive and the effect is excellent.

For those who object to playing in the hot sun and for the busy man whose daylight hours are taken up, the electric lighted tennis and croquet grounds offer an excellent opportunity



An illuminated Tennis Court. By arranging the lights at the sides in this way, there is no glare in the eyes of the player.

for healthful exercise in the cool night air. The chief merit of the ideas, however, is that it offers a novel means of entertaining at the country club or private home when the usual forms of summer evening affairs have grown stale or uninteresting.

Electricity and the Summer Industries

We often feel pity for the men whose busy season, whose rush work, falls in the high heat of the dog days. Perspiration and prosperity are synonyms to the ice-cream merchant, the bottler of beer and soft drinks, the man behind the soda counter and in the delicatessen store. But time and electricity have wrought many changes.

The ice-cream manufacturer turns his freezers with an electric motor and there is total absence of heat, smoke, dirt and noise. The bottler cleans his bottles with a motor-driven bottle washer. The up-to-date soda

A motor driven Ice Cream Freezer means plenty of cream with no work. Smaller outfits are practical and economical for the home.

fountain is maintained by its own motor-driven carbonator, a little nickel plated motor driven drink mixer saves time and muscle in mixing popular "shake" drinks, and a small motor-driven refrigerating plant plays the part of ice-man and builds up extra profits at the same time.

Electric service has changed the complexion of summer for many men to whom the ice bill and the keeping of a cool store has been a big item of worry and expense. Motor-driven refrigerating plants bring economies to the market, the dairy, the restaurant and the hotel that put comforting figures on the profit side of the ledger.

Wherever there is summer work to do, it pays to investigate the electric servant for the saving of wearing labor is usually the saving of capital.

The Influence of Light

What the Pleasure Parks and the Gay White Way are Doing for the World

Light is probably the most potent and certainly the most interesting influence in the universe. It is the magnet to which every form of life joyfully responds—plant, animal and human.

It is interesting to note the character and the temper of the crowd that flocks to the brightly lighted street and to the pleasure park. Good nature and gaiety ever predominate.

Only a few years ago, Coney Island and those other pleasure resorts near all large cities, bore evil names. The change that has come is due more to the developments in electric lighting than to any one thing, for the strong rays of the flaming arcs and the myriads of incandescents have put vice to rout and the innocent fun and frolic of good-natured crowds has displaced it. We go to "Luna Park," we go to "The White City" and we're all boys and girls together for the bright lights lighten our cares and put worry to flight.

And that is ever the influence of light, no matter where we find it. The lamp studded arcade, the streets with the long lines of decorative lamp posts, are ever the pathways of happy evening crowds.

Truly, public electric illumination has developed one of the greatest moral forces the world has seen. It has become a part of our lives and our lives are the better for it. The dazzling pleasure parks and the "Gay White Way" are both healthy signs of the march of progress.

Harmony in Lighting Fixtures

A Suggestion Which May Help the Home Builder in Selecting Lighting Equipment

A few years ago people installed combination gas and electric fixtures as a matter of course. Nowadays, electric service is so sure and reliable that the gas auxiliary is usually eliminated by those who have had experience, with the result that the cost of gas piping can be saved and the saving put into better and more satisfying fixtures. The incongruous, makeshift "combinations" are rapidly giving place to fixtures having real character; the unsightly "fancy" globes are being superseded by glassware of true artistic merit. The change is slow, to be sure, but people of taste are learning that simple and dignified designs are today no more expensive than the ornate and vulgar forms of a decade ago.

In the selection of fixtures and glass, thought should first be given to the room in which they are to fit. Harmony is the first law of good taste.

The most interesting developments in lighting equipment during the past decade have been due to the "illuminating engineer," who has not only reduced illuminating practice to an exact science, but has caused the development of globes and reflectors designed to give exact illuminating results. To the average householder, this is relatively less important than, let us say, to the department store proprietor. The latter spends hundreds of dollars for electricity and must obviously seek equipment that will have the greatest possible efficiency. But the home-builder should not overlook the advantages of economical glassware reflectors that enable him to get the same useful illumination from an 8 candle-power lamp, as was previously secured from a lamp of 16 candle-power.

Again, the development of art glassware has been rapid, and in consequence the cost of such glass is now well within the reach of all. Today, globes having all the quality and character which we were accustomed to ascribe to so-called "Tiffany glass" may be secured at extremely moderate cost. Leaded glass, etched glass, cut glass, stained glass—all kinds and qualities, are offered in bewildering array. The glass problem, like the fixture problem, is one of harmony. A cut glass shade is out of place in a library fitted in dark wood and rich leather. A satin-finished reflector of distinctive "period" design is equally lost in a living room of mixed furnishings. An equipment of loose-hanging prisms is not desirable in a room where vibrations will keep the glass in a constant jangle of noise.

The above are negative hints, but in the selection of so important a part of home furnishing as the lighting fixtures and equipment, it is impossible to lay rules of procedure—we can only suggest the danger points. The only positive statement possible, and the one which, if followed, will result in satisfaction, can be summed up in this one word: Harmony.

The Scientific Management of Light

Do you realize that probably *half* the light you pay for is wasted?
And that this waste is *preventable?*

Holophane Globes and Reflectors

are scientifically designed to *save* light.

The light which has heretofore been practically *thrown away*, because the "shades" used have been of *common* glass *improperly* designed, is reflected in useful directions by Holophane Glass in such a manner as to *practically double* the useful illumination given by *any* electric lamp.

This means that if you equip your home with *genuine* Holophane* Globes and Reflectors you will secure *double* the illumination at the *same cost* for electric current as if you used ordinary globes and shades.

If you are interested in illumination *economy*, let us send you the names of our representatives in your city. A demonstration is interesting—and you are under no obligation.

HOLOPHANE COMPANY

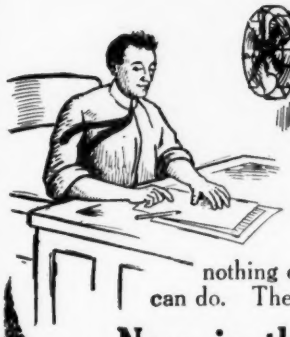
Sales Department:

NEWARK, OHIO

New York Boston Philadelphia Chicago San Francisco London

Holophane Company, Ltd., 62 Front St., W., Toronto, Canada

*Avoid imitations. Cheap shades are sometimes offered which *look* like Holophane but *act* liked etched glass.



Which Would You Rather Be?

If you were one of these two men would you change places with the other for a difference of half a cent an hour?

The comfort alone is worth many times that amount, to say nothing of the difference it makes with your disposition and the work you can do. The same thing is true of your customers and

Now is the Time to Talk Fort Wayne Fans

Most all electric fans are on a par as far as appearance and guarantees are concerned, but there's a mighty big difference in their performance, and that's just where Fort Wayne Fans are strong.

We make a size and type for *every use* and it will pay you to send for a supply of our free 32-page illustrated booklets and distribute them to your customers.

At least send for a copy for your own use.

FORT WAYNE ELECTRIC WORKS

of General Electric Company

"Woods Systems"

1636 Broadway, Fort Wayne, Ind.

Branch offices most large cities

F2

Cooling Breezes Anywhere Anytime with

Electric Fans

Before the age of electricity people wished for cooling breezes—and waited. No longer need anyone wait for the restful comfort that cooling breezes bring on sultry summer days and nights.

G-E Fans are all equipped with three-speed switches, making available any breeze from a gentle zephyr to a hard blow.

These fans are ready for service day or night in any house or building wired for electric light. They can be attached to any convenient socket as easily as an electric light. Place the fan on a table or hang it on the wall and tip it to direct the breeze up or down, to right or left as desired.

The oscillating types turn automatically from side to side several times a minute and thus send cooling breezes regularly to every part of the room.

The nameplate or monogram of the General Electric Company is a guarantee of quality by the largest electrical manufacturer in the world. The monogram appears in the center of the fan guard.

Most electric lighting companies and supply dealers sell G-E Fans but, if you cannot get one readily, write and we will see that you are supplied promptly.

Desk and bracket fans in 8, 12 and 16 inch sizes;

Oscillating types of desk and bracket fans in 12 and 16-inch sizes;

12 and 16-inch exhaust fans;

Ceiling, floor-column and counter-column fans in 52 and 58 inch sizes.

General Electric Company

Schenectady, N. Y.

2930

Central Station Finance

The First of a Series of Articles on the Investment Opportunity of Central Station Securities

By H. F. McConnell, of Williams, McConnell & Coleman, New York

A financial department in a trade paper or magazine, particularly one devoted to the selling end of a universal necessity, is a little out of the ordinary but it must be remembered that financial co-operation was necessary before the selling force could be organized. It is the purpose and intention in this and following articles to analyze or recommend securities without prejudice and any criticism made will be from an investors' standpoint.

Extravagance in saving is far worse than extravagance in spending. This has possibly never occurred to you and it may seem a little strange at first glance, but it is nevertheless true. Almost every active worker saves something for the "rainy day," but the average man is so busy earning money and saving it that he does not

H. F. McConnell

give proper consideration to the disposition of what he saves. The idea of investing never occurs to him: he simply puts it in a bank, where there is always the temptation to draw it out to meet a temporary stringency.

This is extravagance in saving, for, laboring under the impression that investing in stocks or bonds may be indulged in only by those of wealth and experience, he is content to receive three or four per cent from a bank, not realizing that that institution must be able to reinvest his money at a rate to allow a handsome profit. Why divide your profit with a savings bank when by investing in stocks or bonds you get two or three times the bank interest on your money?

It must also be remembered that in times of financial stress from thirty to sixty days' notice may be required by a bank if a withdrawal is desired, while any good security may be marketed within twenty-four hours. Lack of knowledge of banking and investments has kept many from making the best use of their savings. The majority of corporations are founded on the *E Pluribus Unum* plan and the small investor is just as welcome and often more so than is the large one.

Probably the greatest difficulty in interesting a prospective investor lies in his own disinclination to consider, or his inability at first to understand, the difference between investment and speculation. The success of a multitude of fake mining promoters proves conclusively that the small investor is always willing to take a long chance without serious consideration.

The most successful men of today are those that are keeping every dollar on the move. It is true that many took apparent chances, but thorough investigation will generally prove that the chance was only on the surface and early investing experience had given them the acumen to lead and let others follow.

Another prevalent impression is that money put into stocks or bonds is indefinitely tied up, whereas the very reverse is true. Not only are good securities easily marketed, as has been said, but a larger loan can be negotiated on them than on a corresponding amount of real estate.

This, of course, is aside from the

fact that they pay a good rate of interest, even while being used as collateral.

"Well," somebody says, "I'm a young man! I've only been working a short time, and I haven't much put away." That is all the more reason for making good use of what there is.

It isn't necessary to have a large amount of money to become a stockholder in a corporation. A single share of stock is sufficient for that. Several years ago it was difficult to purchase other than a round lot of stock or bonds in denomination of $1,000. Today it is possible to obtain one share of any standard security and any number of first class bonds in $100 pieces.

In fact, many investors in listed securities prefer ten various ten-share lots to one hundred shares of one particular issue, as it serves to minimize the risk.

The career of every young central station commercial man, though he may not realize it himself, is closely watched by the business interests of the community and his present status as well as his chances of future promotion are pretty well regulated by the showing he makes for himself.

He is judged not alone by the company he keeps: he is judged also by the money he keeps and the use he makes of that money. Other things being equal, the man who has his savings invested in good securities will have a better rating among his business acquaintances than the man who is letting his lie practically idle in the bank.

Of course, not every one can become a capitalist, but every one with an income can increase it by judicious investment, and the small lot buyer is more welcome in the average banking house today than the speculator. We shall carefully avoid statistics in this article, as they are a bugbear to the average man, who has too many figures to handle in his business to want any more thrust upon him. A fact that we do wish to impress, however, is the importance of making the best use of your savings and putting them where they will be of most use to you and show the most lucrative returns.

Another fact that is not generally known is that securities may be purchased on the part payment plan. Anyone can open an account of this nature with $50 or more through any reliable broker, and in the course of a few years the results will be surprising.

Many men with comparatively small incomes have added to them materially through the judicious investment of their savings, and that more are not doing so is doubtless due to the fact that they have never investigated the subject of investing in securities.

Marginal trading in speculative issues is dangerous and 95 per cent of the time results in financial disaster, to say nothing of loss of appetite and sleep, but straight investment issues, purchased on an income basis, are much more desirable than a bank book with a few figures and red lines, or a piece of property incumbered with a mortgage.

As an illustration of the ease with which a small investment may be transacted and the resulting benefit to the investor, the following case in point may be cited: A few months ago a small investor purchased ten shares of a 6 per cent preferred stock at 80 net, costing $800. Of this, $250 was paid in cash and a loan arranged for the balance of $550 at 5 per cent with the stock as collateral. The dividends on the ten shares at 6 per cent amounted to $60, and the interest charge at 5 per cent on the $550 loan was $27.50, leaving a difference of $32.50 in favor of the buyer, or 13 per cent on the money he invested.

This is eight or ten per cent more than he could possibly have made by leaving the money in a bank, besides giving him a bundle of good securities that will bring in $5 a month as long as he has them, and that may be disposed of on short notice at any time. The young business man will find that the ownership of even one share of stock in a good corporation will not

only materially increase his standing in the industry and add to the respect he commands from his customers, but it will give him a broader outlook upon the activities of public utility corporations—not to mention the fact that he will be getting both a safe and *good* return on his investment.

A little reflection will show that it is much better to put savings where they will be really at work than to let them lie in a bank in what Grover Cleveland called a "state of innocuous desuetude."

Arrangements have been made for an Inquiry Department in connection with these articles and Mr. McConnell will be pleased to give quotations, information and any data obtainable on any security in which our subscribers may be interested.

Each inquiry should be signed by the writer, but only the initials will appear in the answer which will be published the following month, space permitting.—[*Editor.*

DOLLAR IDEAS

A Testimonial Broadside

C. A. SUNDERLIN

Commercial Manager Colorado Springs Light, Heat & Power Co., Colorado Springs, Colo.

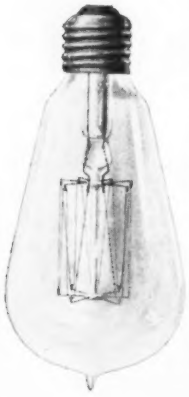
This advertisement was recently run in the local paper and not only caused much comment but materially aided us in crystalizing the interest of several sign prospects.

Recommendations were solicited from leading merchants who were using electric signs, and in return for their kindness they were given a line or two of publicity in the ad, which proved very popular. An advertisement containing recommendations from so many different business men naturally was of great value.

The Manufacturers

Data on Drawn Wire

The prompt issuing of a comprehensive bulletin on drawn wire filament Mazda lamps, by the Engineering Department of the National Electric Lamp Association, supplies the industry with the information it now desires concerning this new type of lamp.



Of a special interest is the following table giving diameters and tensile strengths of the drawn wire filaments. These figures were secured from wire taken at random from the product.

Size	Diameter in inches	Tensile Strength Lbs. per sq. in.
100-watt	0.00290	451,000
60-watt	0.00207	499,000
40-watt	0.00153	547,000
25-watt	0.00118	737,000

The drawn tungsten wire, as used in Mazda lamps, has a very high initial tensile strength, but the metal does not retain this enormous strength after a few hours' operation. However, the fact that the filament can often be bent even after burn-out—an impossibility with the filaments made by the earlier processes—shows its superiority over the usual pressed filament. The improved method of support and of attachment to leading-in wires as well as the increased strength, combine to make a lamp superior to that employing non-ductile pressed filaments.

The Sign With a Purpose.

There are two extremes in sign designing: one kind of sign is a strained effort of originality; the other is an uninspired "stock" proposition used simply because the buyer has not an idea in his head. Between these extremes, we find the sign with a purpose, and that is the best type of electric sign made.

The Cook Brewing sign, here illustrated, is a good example of this type. The trade mark of the brewery is introduced effectively and upon a scale that is impressive. The spectacular feature is taken care of by the flaming torches in the design which, while not original, are always good form in this class of display.

The Cook sign is said to be one of the largest in the middle West, containing 3100 lamps, and measuring 54 by 68 feet over all. It was designed and built by the Greenwood Advertising Company of Knoxville, Tenn., who are justly proud, not only of design, but of the workmanship of this attractive display.

The Electric Photo Printer

The field of photography has so grown and extended in the last few years that it is well worth the attention of the central station salesmen. The electric photo printer, shown in the accompanying illustration, points the reason.

The portrait gallery is no longer the

principal outlet for photographic accessories since in manufacturing of all classes, the actual reproduction has become recognized as the greatest aid to both salesman and advertiser. In well nigh every large manufacturing plant there is a constant demand for photographs and blue prints. Add to this field the architects' and engineers' offices and the commercial and portrait photographers and the field for such a device is seen to be considerable.

The Calhoun Photo Printer is made by the Calhoun Photo Material Company of Muskegon, Mich., and commends itself to all photographers in that it reduces the time ordinarily required for developing and eliminates waste from spoilage; makes it possible to intrust the process to an assistant, and therefore introduces a very material economy.

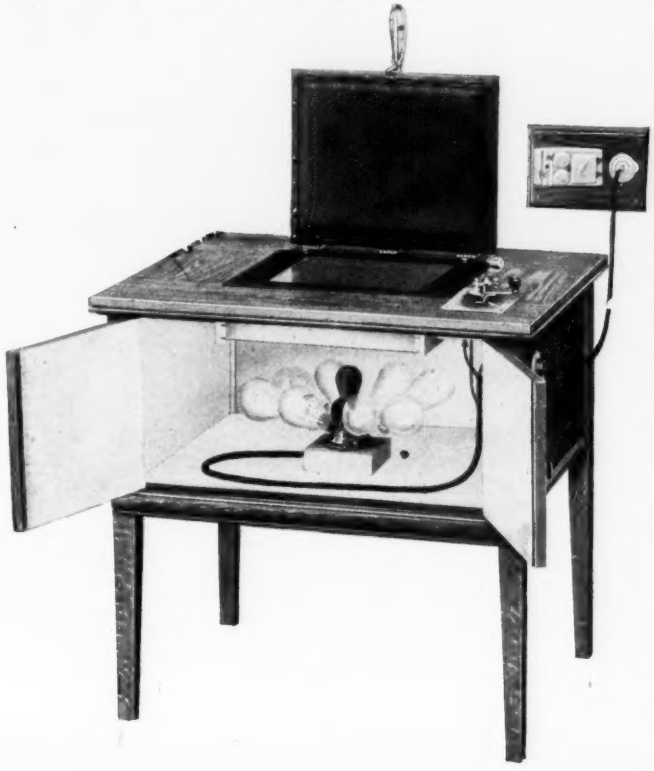
It consists, essentially, of a cabinet, a movable cluster of lights, a positive contactor, a timing device and a mercury shifting switch. The operating parts are so arranged that a movement of the controlling lever turns on the printing lights, and at the expiration of a predetermined time, the timing device automatically reverses the switch, turns off the printing lights and terminates the exposure.

Within the cabinet is a movable lighting cluster consisting of eight 40-watt tantalum lamps and one 16-candle power natural ruby carbon filament lamp.

The negative holder is closed and protected during the printing process by a heavily and evenly padded, hinged cover. All light, except from the movable cluster, is effectually excluded.

The automatic timer is a spring motor with a dial numerically graduated from 0 to 60, the speed being controlled by an aluminum governor within the cabinet.

Both the ruby and the white lights are controlled by a reversing switch with positive mercury contacts.



The Calhoun Automatic Photo Printer is said to be the fastest photo printing apparatus made. It will print 1,000 photos in one-fiftieth the time required for sunlight printing, under average conditions. By previously adjusting the movable lighting cluster, the operator can secure on his negative any desired effect of light and shade. It produces a dozen prints, or a hundred thousand, absolutely uniform in quality and shading.

"A skilled photographer can print, with sunlight alone," says the manufacturer, "*under the most favorable conditions*,

not over 200 photographs in a day. His time would be worth, say $6.00. With the Photo Printer, regardless of weather conditions, he can print over 2,000 photographs in the same time. Better yet, he can employ his own time on other work, where more experience is required, and turn the printing over to an assistant at, say $1.50 per day. In the first case, the labor cost of each print is *three cents;* in the last case, *three-fourths of a mill.* The ratio is one to forty. In other words, you get $40 worth of work for $1. The running expense of the machine itself is very light. It requires only three amperes to operate it, as against twenty-eight amperes for arc light printing.

"Arc light printing is expensive, disagreeable, and from the standpoint of results, highly unsatisfactory. The light is intermittent, its intensity varies according to the movement of the carbons. Uniform printing is therefore impossible, and to get even fair results, the continuous attendance of a skilled photographer is imperative. The light itself is harmful to the operator's eyes, and the burning carbons throw off noxious gases. The Automatic Photo Printer operates on a low current, produces the exact effect desired by the operator, prints every picture exactly alike, eliminates the blinding glare and the disagreeable gases, and permits the photographer to devote his time to other work."

Santo Duplex Vacuum Cleaner

A new stationary type duplex diaphragm vacuum cleaner, manufactured by the Keller Manufacturing Company of Philadelphia, has recently been placed on the market.

It consists of three parts: base, middle or operating portion and upper or dust receptacle chamber. The base is a round conical casting 23 inches in diameter. The machine can be set on any level floor, requiring no screws or bolts to hold it down. The operating part consists of a lower pump chamber, above which is supported a similar chamber by means of four tubular columns, which also serve as the passageway for the air from the vacuum chamber to the lower pump.

Supported centrally between these two pump chambers on a substantial bracket or bridge is a ¼ hp. motor designed especially for this machine. There are only five moving parts in the entire machine; the armature or rotor of the motor, the two eccentrics and the moving portion of the upper

Santo's Duplex Open for Inspection

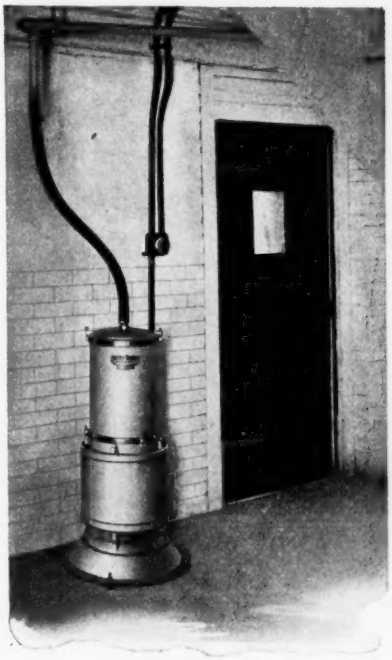
and lower pumps. The eccentrics are 180 degrees apart and the movements of each pump member ⅝ inch. The speed of the motor is 1200 rpm., which gives 2400 impulses per minute and a practically constant suction.

The pumps are similar to the Keller pump unit used in the Keller Santo portable machine, and consist of a saucer-shaped chamber closed by means of a circular leather diaphragm.

The dust chamber consists of a cylindrical steel shell mounted above the

operating or pump portion and containing a removable dust bag.

The Keller Duplex stands 40 inches high over all; weighs 180 pounds; has



Santo's Stationary Plant

a capacity of 45 cubic feet of free air per minute and vacuum of 8 inches to 9 inches mercury gauge.

Safety Iron Stands

The Modern Specialties Company of Milwaukee manufacture two types

of safety iron stands which should commend themselves to users of electric irons and are well worth the attention of the central station salesman. Their virtue lies in the fact that they may be attached to the ironing board without occupying

space on the board itself and therefore not obstructing the handling of the material being ironed.

The goose neck type holds the iron a little above and partly over the edge of the ironing board free and clear. The straight neck style holds the iron a little above and alongside the edge of the board. The stand proper is balanced on a pivot connection and equipped with a heavy asbestos pad.

Marking Time by Electricity

A somewhat novel though not entirely new idea in electrical advertising is the New York Klok Monogram, a device which indicates the exact time in electric figures. The sign, which is made by Betts & Betts, is operated by a special flasher, controlled by a clock movement. Every sixty seconds the solenoid is actuated, starting the motor which drives the flasher. The relation of the mechanism to the clock movement is not affected by variations in the voltage, and the clock being accurately adjusted, the monogram will give the correct time.

Details About Boston Electric Show

An attractive booklet containing information for exhibitors in the 1912 Boston Electric Show, has been gotten out by the Boston Edison Illuminating Company, under whose auspices the show will be held

The whole of the Mechanics Building, comprising over 100,000 square feet of exhibit floor space, will be taken and it is aimed to make this show the greatest thing of the kind ever attempted in this country. The show will run from September 28 to October 26, inclusive

5748 Signs in Chicago

On April 27th, the Commonwealth Edison Company of Chicago reported 5748 signs on circuit. Of these approximately 4000 belong to the company and are burning on a rental basis.

In probably no city in the country are the signs so well distributed as in the Windy City. While there are naturally a considerable number of large and spectacular displays, the bulk of the sign business is among merchants of moderate means who consider an electric sign the first evidence of progressiveness.

A Correction by Mr. Ashe

In the report of discussion of "Competitive Illuminants" printed on page 316 of our June issue, we give the average candle-power performance of the magnetite arc lamp as 80% whereas Mr. Ashe stated it as being 90%.

POSITIONS OR MEN WANTED

The rate for "Positions or Men Wanted" advertisements of forty words or less is one dollar an insertion; additional words, one cent each; payable in advance. Remittances and copy should reach this office not later than the 15th of each month for the next succeeding issue.

Replies may be sent in care of Selling Electricity, 17 Madison Avenue, New York City.

WANTED—Young, active man who has been connected with a Progressive New Business Department, and who is versed with latest methods of securing new business in light and power. Wanted to organize and take charge of New Business Department. Address H. A. M., care of Selling Electricity, 17 Madison Ave., New York City.

WANTED—A Commercial Engineer of nine years' experience in originating and operating new business departments for Gas, Electric or Combination Companies, will be at liberty on June 1st, 1911. Change necessitated owing to retrenchment policy of company with whom at present connected. Adress E. C. N., care of Selling Electricity, 17 Madison Ave., New York.

FANS—Having recently taken over an isolated plant we have for sale as follows:—

84-16 in. G. E. 110 Volt D. C. Desk Fans
24-12 " G. E. 110 Volt D. C. Desk Fans
14-4-blade Ceiling Fans G. E. 110 V. D. C.

All in first class condition. Bargain prices. Address C. P. M., Care of Selling Electricity, 17 Madison Ave., New York.

Last month we showed you, as a sample of our produ
3100-lamp sign—the largest in the middle west.

This month we want to show you that Greenwood

Individuality

is not restricted to big, spectacular displays, but is inherent i
every sign we make.

The Wigwam sign, here pictured, contains only 100 lamps,
yet it has all the individuality of design, all the quality of
manship and material, that go into our big work. This
legible; it has character; it has a display feature surround
head; it has excellent daylight appearance.

Every good q uality that a sign *should* have is incorpor
every sign made by

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